

## APPENDIX A:

### ANALYSIS OF HOMES WITH HIGH CUMULATIVE RISK

This appendix presents the results of the analyses that were conducted for 41 of the 106 homes where sub-slab vapor (VMP) samples were collected. These 41 homes were identified in the 2009 HHRA as homes where the cumulative cancer risk from all chemicals of interest (COI)  $\geq 1 \times 10^{-5}$ . This re-evaluation was conducted to identify homes where the cancer risk associated with a COC detected in a VMP sample  $> 1 \times 10^{-5}$  and that the COC was linked to contaminated groundwater.

The summary results in this appendix are presented on a home-by-home basis with a unique sampling code assigned for that particular home. Although numerous VMP, Geoprobe, and indoor air samples were collected for each home, remedial decisions were solely based on the concentration of chemicals detected in VMP samples.

A series of summary Exhibit tables have been prepared for each home. These tables present the salient information that was used by DDOE to make risk management decisions. In addition to these tables, a bulleted list of principal findings and conclusions supporting DDOE's decision has been generated to make the decision-making process transparent.

Each home summary first identifies all chemical(s) of concern (COC) that were detected in any VMP sample collected at the home. A COC for a particular home is defined as a chemical posing a cancer risk  $\geq 1 \times 10^{-5}$  based on the concentration detected in one or more VMP samples at the home. For most homes, several VMP samples were collected at different points of the year. Risks were calculated for each VMP sample. For risk management purposes, DDOE primarily focused on the sample with the VMP sample corresponding to the highest risk. Risks calculated for other VMP samples were compared to determine if the risk level for the home fluctuated or remained constant during the year. A finding that the calculated risks for a single COC exceeded an acceptable level in more than one VMP sample indicated the contamination measured in the sub-slab vapor space is linked to a contaminated ground water source under that home. To confirm this assumption, a groundwater analysis was conducted to determine if a direct link existed.

Cancer risks were calculated for each COC based on the default assumption that the attenuation factor (AF) is 0.1. The AF is the ratio between the detected concentrations of an individual COC detected in indoor air to the sub-slab vapor space. For example, if the measured sub-slab vapor concentration is  $100 \text{ ug/m}^3$ , an AF of 0.1 assumes that the indoor air concentration is  $10 \text{ ug/m}^3$  and that concentration would be used to calculate risk. Although the actual AF value of 0.1, as recommended by EPA's *Vapor Intrusion Guidance* (2002) can overestimate the actual *current* indoor air concentration in any individual home, it is considered protective of future exposures in which the concrete slab could deteriorate. While DDOE relied on the EPA recommended default AF to calculate risk, it was important to confirm that the default AF did not *underestimate* the magnitude of vapor intrusion into the home. To establish the extent to which sub-slab vapors are currently migrating through cracks or openings in the concrete slab, the AF value was empirically calculated for each chemical in each home. This analysis was conducted by dividing the detected indoor air concentration by the corresponding concentration in a "paired" VMP sample. In order to calculate an accurate AF value, the analysis must be conducted on a paired set of indoor air and VMP samples that were collected at about the same time. For most homes in this study, at least

one paired set of indoor air/VMP samples was available to determine the actual AF value for the home.

Identifying Riggs Park homes in which a COC posed an unacceptable cancer risk  $\geq 1 \times 10^{-5}$  was the preliminary step in DDOE's 2-step risk management decision-making process. The second step required that a link between the COC posing the unacceptable VMP risk and groundwater contamination could be established. The analysis in this second step involved evaluating the contaminant levels of the COCs detected in the nearest 3 ground water monitoring wells located around the home. This analysis relied on ground water data collected in 2008.

In the final analysis, if the calculated risk  $\geq 1 \times 10^{-5}$  for a COC detected in at least one VMP samples was detected in at least one of the 3 surrounding wells, DDOE identified the home as requiring remediation.

The above summary information is presented in a bulleted format. The information in the summary was extracted from the data and analysis presented in a series of Exhibit tables that are presented for each home. The following is a brief explanation of each Exhibit table.

➤ **First Exhibit: *Sampling Results and Calculated Risk for VMP Sample***

As the first health-protective step, it is important to determine the extent (if any) of current vapor migration from the sub-slab vapor space to indoor air. This determination is made by comparing the chemical concentration of each chemical detected in a VMP sample to the corresponding (collected at approximately the same time) paired indoor air sample. Exhibit 1 presents the concentration and corresponding cancer risk for each chemical detected in the paired VMP sample as well as the cumulative cancer risk for that VMP sample. The noncancer hazard quotient is also presented for each detected chemical along with the total cumulative hazard index. To be transparent, the concentrations of chemicals that do not have EPA-derived toxicity values are also presented, but risks for these chemicals could not be calculated due to the lack of a chemical-specific toxicity value.

➤ **Second Exhibit: *Sampling Results and Calculated Risk for Indoor Air Sample***

This Exhibit presents the same information discussed above (in the First Exhibit) for the paired indoor air sample. This Exhibit provides a point of comparison in which the number and concentration of chemicals in indoor air can be directly compared to the chemicals present in the sub-slab vapor space.

➤ **Third Exhibit: *Calculated Attenuation Factors***

This Exhibit presents a comparison between the paired VMP sample (Exhibit 1) and indoor air sample (Exhibit 2). The concentration of each chemical detected in each of the paired samples is presented together with the indoor air/VMP ratio, which corresponds to the calculated AF. Chemicals identified as COCs for the home are highlighted. Note that an AF value can only be calculated for chemicals that were detected in both VMP and indoor air samples. The AF column was left blank for those chemicals where an AF value could not be calculated.

➤ **Fourth Exhibit: *Summary Attenuation Factors***

This Exhibit presents the summary results of the analysis conducted on the data presented in the Third Exhibit. This Exhibit shows the number of chemicals detected in indoor air versus VMP samples. It also presents the number of "matched" chemicals detected in those samples. The importance of this information is that in order to conclude upward vapor migration is currently occurring; the same COC detected in VMP samples must be detected in indoor air. That is, since chemicals migrate from the subslab vapor space through cracks and openings in the concrete slab

floor, all chemicals detected in the VMP sample must be correspondingly detected in the indoor air sample. It is not possible for the concrete slab to prevent some chemicals while allowing others to migrate into indoor air. Data in the Exhibit labeled ND indicate the chemical was not detected.

➤ **Fifth Exhibit: *Comparing Concentration and Risk for all VMP Samples***

It should be noted that all risk management decisions were made on the basis of risks calculated from VMP concentrations (indoor air concentrations were not used to make any remedial decision). For most homes, multiple VMP samples were collected at different times of the year. This Exhibit presents the concentration and corresponding risk for each COC detected in each of the VMP samples collected at the home. Multiple detections of elevated concentrations of COCs in samples collected at different times of the year provide suggestive evidence that a constant source of contaminated groundwater is present below or near the home. By contrast, a home in which numerous VMP samples are collected but only one VMP sample shows an elevated COC concentration indicates the one sample may be an anomalous or unusual sample.

➤ **Sixth Exhibit: *Spatial Analysis***

A spatial analysis was conducted to determine if the home was located near any other home(s) requiring remediation. The analysis presented in this Exhibit is based on the common-sense assumption that it would be unlikely for contaminated groundwater to exist without impacting a small cluster of homes overlying that groundwater. That is, if contaminated groundwater were present in an area of Riggs Park the impact from that contamination should be observed in VMP samples in homes overlying the groundwater source. The only exception to this assumption would be where the depth to groundwater would be significantly different among the group of homes.

➤ **Seventh Exhibit: *Groundwater Analysis***

For homes where the VMP risk  $\geq 1 \times 10^{-5}$ , an analysis of ground water contamination was conducted to determine if the COC posing the risk was linked to groundwater (note that a groundwater analysis was not conducted for homes where the risks  $< 1 \times 10^{-5}$ ). This Exhibit presents the maximum detected concentration and detection limit for each COC detected in the VMP sample at the home. For samples where the chemical was not detected, the detection limit is presented together with a "U."

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S13**

**Chemicals of Concern observed at this home:**

- Tetrachloroethene and chloroform

**Principal Findings/Conclusion:**

- Tetrachloroethene and chloroform were detected in multiple VMP samples.
- Tetrachloroethene and chloroform concentrations were detected above an acceptable risk level in at least one VMP sample.
- Tetrachloroethene and chloroform were both detected in VMP samples, but neither was detected in the INA sample.
- Both tetrachloroethene and chloroform were detected in a nearby groundwater well.

**EXHIBIT 1**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q1-S13-VMP, WEEK 4**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Chloroform</b>	<b>302</b>	<b>2.7E-04</b>
Tetrachloroethene	12	2.9E-06
<b>Cumulative Cancer Risk</b>		<b>2.8E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	3	0.00006
Acetone	28	0.00009
<b>Cumulative Hazard Index</b>		<b>0.00015</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Dichlorodifluoromethane (Freon12)	2
Ethanol	17
Isopropyl alcohol	1

EXHIBIT 2  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S13-INA, WEEK 4

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	3	9.1E-06
Chloromethane	2	1.1E-06
Ethylbenzene	2	1.6E-06
<b>Cumulative Cancer Risk</b>		<b>1.2E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,2,4-Trimethylbenzene	2	0.22000
Acetone	17	0.00053
Ethyl acetate	1	0.00041
Hexane	3	0.00410
Toluene	9	0.00170
Xylenes	6	0.05100
<b>Cumulative Hazard Index</b>		<b>0.27332</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Dichlorodifluoromethane	2
Ethanol	324
Isopropyl alcohol	23
n-Heptane	1
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 3  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S13-INA/Q1-S13-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	2	ND	
2-Butanone (MEK)	ND	3	
Acetone	17	28	0.6
Benzene	3	ND	
<b>Chloroform</b>	<b>ND</b>	<b>302</b>	
Chloromethane	2	ND	
Dichlorodifluoromethane	2	2	0.9
Ethanol	320	17	19.0
Ethyl acetate	1	ND	
Ethylbenzene	2	ND	
Hexane	3	ND	
Isopropyl alcohol	23	1	23
m,p-Xylene	4	ND	
n-Heptane	2	ND	
o-Xylene	1	ND	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>12</b>	
Toluene	9	ND	
Trichlorofluoromethane	2	ND	

EXHIBIT 4  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S13-INA/Q1-S13-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
15	7	4	14
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 5  
COMPARING CONCENTRATION AND RISK FOR ALL VMP  
SAMPLES

Sample No.	Week	Chemical	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S13-VMP	29	Chloroform	102	9.2E-05
<b>Q3-S13-VMP</b>	<b>29</b>	<b>Tetrachloroethene</b>	<b>56</b>	<b>1.4E-05</b>
Q2-S13-VMP	14	Chloroform	187	1.7E-04
Q2-S13-VMP	14	Tetrachloroethene	15	3.7E-06
Q1-S13-VMP	4	Chloroform	302	2.7E-04
Q1-S13-VMP	4	Tetrachloroethene	12	2.9E-06

EXHIBIT 6  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	Yes
Tetrachloroethene	Yes

**EXHIBIT 7**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>		
Chemical	Chloroform	Tetrachloroethene
Closest Monitoring Well	MW-42	MW-42
Distance	55.26	55.26
Concentration	1.1	1.1
Second Closest Monitoring Well	MW-30	MW-30
Distance	71.06	71.06
Concentration	1 U	1 U
Third Closest Monitoring Well	MW-24B	MW-24B
Distance	80.2	80.2
Concentration	20 U	20 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S23**

**Chemical of Concern for this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform is the primary chemical of concern.
- Chloroform was detected in multiple VMP samples but was only elevated in 1 of 5 samples above an acceptable risk level.
- Chloroform was detected in higher concentrations in VMP samples compared with INA samples but it was not detected in nearby groundwater wells

**EXHIBIT 8**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q2-S23-VMP1, WEEK 22**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Carbon tetrachloride	0.6	3.9E-07
<b>Chloroform</b>	<b>286.7</b>	<b>2.6E-04</b>
Methylene chloride	4.7	9.0E-08
Tetrachloroethene	2.3	5.6E-07
<b>Cumulative Cancer Risk</b>		<b>2.6E-04</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	2.2	0.00004
1,3-Dichlorobenzene	0.8	0.00769
2-Butanone (MEK)	3.7	0.00007
Acetone	6.1	0.00002
Ethyl acetate	3.8	0.00012
Toluene	2.9	0.00006
Xylenes	1.0	0.09538
<b>Cumulative Hazard Index</b>		<b>0.00886</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Bromodichloromethane	1.0
Carbon disulfide	0.4
Dichlorodifluoromethane (Freon12)	2.5
Isopropyl alcohol	0.5
Trichlorofluoromethane (Freon 11)	2.0

EXHIBIT 9  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S23-INA, WEEK 4

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	2	6.6E-06
Chloromethane	2	1.7E-06
Methylene chloride	2	4.1E-07
Naphthalene	23	3.2E-04
Tetrahydrofuran	1	1.5E-06
<b>Cumulative Cancer Risk</b>		<b>3.3E-04</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	2	0.32325
2-Butanone (MEK)	7	0.00143
Acetone	26	0.00082
Ethyl acetate	4	0.00127
Hexane	2	0.00256
Toluene	12	0.00243
Xylene	3	0.02692
<b>Cumulative Hazard Index</b>		<b>0.35869</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Dichlorodifluoromethane (Freon12)	2
Ethanol	483
Isopropyl alcohol	66
n-Heptane	2
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 10  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S23-INA/Q1-S23-VMP1

Chemical	Indoor Air Concentration (µg/m3)	Sub-Slab Concentration (µg/m3)	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	2.36	ND	
2-Butanone (MEK)	7.46	1.33	5.62
2-Hexanone (MBK)	ND	0.37	
Acetone	26.14	4.73	5.53
Benzene	2.04	ND	
<b>Chloroform</b>	<b>ND</b>	<b>8.81</b>	
Chloromethane	2.35	ND	
Dichlorodifluoromethane	2.42	1.09	2.23
Ethanol	482.68	6.39	75.52
Ethyl acetate	4.18	ND	
Hexane	1.87	ND	
Isopropyl alcohol	65.52	5.13	12.78
m,p-Xylene	2.95	ND	
Methylene chloride	2.15	ND	
Naphthalene	22.98	ND	
n-Heptane	1.52	ND	
Tetrachloroethene	ND	0.68	
Tetrahydrofuran	1.42	ND	
Toluene	12.42	0.45	27.50
Trichlorofluoromethane	2.08	0.96	2.18

EXHIBIT 11  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S23-INA/Q1-S23-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
17	10	7	13
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 12  
COMPARING CONCENTRATIONS AND RISKS ALL VMP SAMPLES

Chloroform			
Sample No.	Week	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S23-VMP2	30	10	8.7E-06
Q3-S23-VMP1	30	6	5.2E-06
Q2-S23-VMP2	22	5	4.4E-06
<b>Q2-S23-VMP1</b>	<b>22</b>	<b>287</b>	<b>2.6E-04</b>
Q1-S23-VMP1	3	9	8.0E-06

EXHIBIT 13  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No

**EXHIBIT 14**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	Chloroform
Closest Monitoring Well	MW-18
Distance	13.07
Concentration	20 U
Second Closest Monitoring Well	MW-24A
Distance	25.46
Concentration	20 U
Third Closest Monitoring Well	MW-24B
Distance	32.92
Concentration	20 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S27**

**Chemical of Concern observed at this home:**

- Carbon tetrachloride

**Principal Findings/Conclusion:**

- Carbon tetrachloride was detected in multiple VMP samples.
- Carbon tetrachloride was detected above an acceptable risk level of 1.0E-05 in 1 out of the 6 VMP samples.
- Carbon tetrachloride was not detected in nearby groundwater wells.

**EXHIBIT 15**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q3-S27-VMP1, WEEK 28**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	0.8	3.8E-07
Benzene	0.1	4.1E-08
<b>Carbon tetrachloride</b>	<b>42.1</b>	<b>2.6E-05</b>
Chloroform	4.7	4.3E-06
Chloromethane	0.4	2.5E-08
Methylene chloride	27.6	5.3E-07
Tetrachloroethene	23.1	5.6E-06
Trichloroethene	0.4	3.1E-08
<b>Cumulative Cancer Risk</b>		<b>3.7E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	0.2	0.00000
1,2,4-Trimethylbenzene	0.4	0.00539
2-Butanone (MEK)	1.1	0.00002
Acetone	5.3	0.00002
Cyclohexane	0.2	0.00000
Hexane	0.1	0.00001
Toluene	0.3	0.00001
<b>Cumulative Hazard Index</b>		<b>0.00543</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Dichlorodifluoromethane (Freon12)	0.8
Ethanol	2.8
n-Heptane	0.3
Isopropyl alcohol	1.5
Propene	0.4
Trichlorofluoromethane (Freon 11)	2.2
1,1,2-Trichlorotrifluoroethane (Freon 113)	1.2

**EXHIBIT 16**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q2-S27-INA, WEEK 19**

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	3	1.5E-05
Chloroform	2	1.5E-05
Chloromethane	1	7.1E-07
Ethylbenzene	5	5.2E-06
Methylene chloride	79	1.5E-05
Tetrachloroethene	9	2.1E-05
<b>Cumulative Cancer Risk</b>		<b>7.2E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	2	0.24918
Acetone	165	0.00515
Ethyl acetate	3	0.00095
Toluene	165	0.03224
Xylenes	17	0.15401
<b>Cumulative Hazard Index</b>		<b>0.44153</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Dichlorodifluoromethane (Freon12)	3
Ethanol	296
n-Heptane	1
Isopropyl alcohol	49
4-Methyl-2-pentanone (MIBK)	2



EXHIBIT 17  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q2-S27-INA/Q2-S27-VMP1

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	1.82	ND	
1,4-Dichlorobenzene	3.31	0.54	6.11
2-Butanone (MEK)	ND	5.90	
2-Hexanone (MBK)	ND	0.53	
4-Methyl-2-pentanone (MIBK)	1.68	ND	
Acetone	164.72	7.22	22.80
Chloroform	1.65	0.58	2.83
Chloromethane	0.99	0.23	4.36
Dichlorodifluoromethane	3.02	2.08	1.45
Ethanol	295.72	3.70	80.02
Ethyl acetate	3.13	ND	
Ethylbenzene	5.07	ND	
Isopropyl alcohol	49.03	5.08	9.65
m,p-Xylene	14.31	ND	
Methylene chloride	79.38	18.65	4.26
n-Heptane	1.23	0.82	1.50
o-Xylene	2.56	ND	
Tetrachloroethene	8.54	26.51	0.32
Toluene	164.73	1.02	162.15
Trichlorofluoromethane	ND	2.19	

EXHIBIT 18  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q2-S27-INA/Q2-S27-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
17	14	11	9
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 19  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:

<b>Carbon tetrachloride</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S27-VMP2	28	1	5.1E-07
<b>Q3-S27-VMP1</b>	<b>28</b>	<b>42</b>	<b>2.6E-05</b>
Q2-S27-VMP2	19	1	3.5E-07
Q2-S27-VMP2	19	ND	
Q1-S27-VMP2	2	ND	
Q1-S27-VMP1	2	ND	

EXHIBIT 20  
SPATIAL ANALYSIS OF NEARBY HOMES

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Carbon tetrachloride	No

EXHIBIT 21  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Carbon tetrachloride</b>
<b>Closest Monitoring Well</b>	GP-2F
Distance	16.36
Concentration	1 U
<b>Second Closest Monitoring Well</b>	MW-25A
Distance	37.71
Concentration	1 U
<b>Third Closest Monitoring Well</b>	MW-49
Distance	42.53
Concentration	2 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S30**

**Chemicals of Concern observed at this home:**

- 1,4-Dichlorobenzene, chloroform, and tetrachloroethene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene, chloroform, and tetrachloroethene were each detected in multiple VMP samples.
- 1,4-Dichlorobenzene was detected above an acceptable risk level of 1.0E-05 in 3 out of 6 VMP samples. Chloroform was detected above an acceptable risk level in 3 VMP samples. Tetrachloroethene was detected above an acceptable risk level in 3 VMP samples.
- 1,4-Dichlorobenzene, chloroform, and tetrachloroethene were each detected in paired INA/VMP samples. 1,4-Dichlorobenzene was detected in higher concentrations in the INA sample compared with VMP. Chloroform and tetrachloroethene were both detected in higher concentrations in the VMP samples compared with INA.
- Only tetrachloroethene was detected in nearby groundwater wells. Tetrachloroethene was detected in 1 out of 3 nearby groundwater wells.

**EXHIBIT 22**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q2-S30-VMP, WEEK 15**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>1,4-Dichlorobenzene</b>	<b>658</b>	<b>3.0E-04</b>
Benzene	1	4.0E-07
<b>Chloroform</b>	103	<b>9.3E-05</b>
Tetrachloroethene	29	7.0E-06
<b>Cumulative Cancer Risk</b>		<b>4.0E-04</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	2	0.00004
Acetone	17	0.00005
Hexane	3	0.00041
Toluene	3	0.00005
<b>Cumulative Hazard Index</b>		<b>0.00056</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	1,006
Isopropyl alcohol	130
n-Heptane	3
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

**EXHIBIT 23**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q2-S30-INA, WEEK 15**

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	1,382	6.3E-03
Benzene	2	7.0E-06
Chloroform	8	7.2E-05
Chloromethane	2	1.2E-06
Tetrachloroethene	11	2.7E-05
<b>Cumulative Cancer Risk</b>		<b>6.4E-03</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	4	0.00072
Acetone	52	0.00164
Cyclohexane	1	0.00017
Ethyl acetate	4	0.00125
Hexane	8	0.01029
Toluene	9	0.00166
Xylene	2	0.01782
<b>Cumulative Hazard Index</b>		<b>0.03355</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	1,006
Isopropyl alcohol	130
n-Heptane	3
Dichlorodifluoromethane (Freon 12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 24  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q2-S30-INA/Q2-S30-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
<b>1,4-Dichlorobenzene</b>	<b>1381.62</b>	<b>657.74</b>	<b>2.10</b>
2-Butanone (MEK)	3.75	2.09	1.79
Acetone	52.40	17.47	3.00
Benzene	2.17	1.24	1.74
Bromodichloromethane	ND	3.35	
<b>Chloroform</b>	<b>7.93</b>	<b>102.50</b>	<b>0.08</b>
Chloromethane	1.69	ND	
Cyclohexane	1.07	ND	
Dichlorodifluoromethane	2.62	2.72	0.96
Ethanol	1006.09	12.18	82.60
Ethyl acetate	4.11	ND	
Hexane	7.51	2.96	2.54
Isopropyl alcohol	130.31	8.64	15.09
m,p-Xylene	1.95	ND	
n-Heptane	3.11	ND	
<b>Tetrachloroethene</b>	<b>10.92</b>	<b>28.62</b>	<b>0.38</b>
Toluene	8.50	2.78	3.05
Trichlorofluoromethane	2.36	1.85	1.27

EXHIBIT 25  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q2-S30-INA/Q2-S30-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
17	13	12	6
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 26**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:**

<b>Sample No.</b>	<b>Week</b>	<b>Chemical</b>	<b>Concentration (µm/m3)</b>	<b>Cancer Risk</b>
<b>Q3-S30-VMP</b>	<b>32</b>	<b>1,4-Dichlorobenzene</b>	<b>23</b>	<b>1.0E-05</b>
Q3-S30-VMP	32	Chloroform	3	3.0E-06
<b>Q3-S30-VMP</b>	<b>32</b>	<b>Tetrachloroethene</b>	<b>49</b>	<b>1.2E-05</b>
Q3-S30-PVMP	32	1,4-Dichlorobenzene	2	7.1E-07
Q3-S30-PVMP	32	Chloroform	3	2.3E-06
<b>Q3-S30-PVMP</b>	<b>32</b>	<b>Tetrachloroethene</b>	<b>43</b>	<b>1.0E-05</b>
<b>Q2-S30-VMP</b>	<b>15</b>	<b>1,4-Dichlorobenzene</b>	<b>658</b>	<b>3.0E-04</b>
<b>Q2-S30-VMP</b>	<b>15</b>	<b>Chloroform</b>	<b>103</b>	<b>9.3E-05</b>
Q2-S30-VMP	15	Tetrachloroethene	29	7.0E-06
<b>Q2-S30-PVMP</b>	<b>15</b>	<b>1,4-Dichlorobenzene</b>	<b>34</b>	<b>1.5E-05</b>
<b>Q2-S30-PVMP</b>	<b>15</b>	<b>Chloroform</b>	<b>30</b>	<b>2.7E-05</b>
Q2-S30-PVMP	15	Tetrachloroethene	26	6.3E-06
Q1-S30-VMP	3	1,4-Dichlorobenzene	11	5.2E-06
Q1-S30-PVMP	3	1,4-Dichlorobenzene	2	6.8E-07
<b>Q1-S30-VMP</b>	<b>3</b>	<b>Tetrachloroethene</b>	<b>39</b>	<b>9.5E-06</b>
Q1-S30-PVMP	3	Tetrachloroethene	17	4.2E-06
<b>Q1-S30-PVMP</b>	<b>3</b>	<b>Chloroform</b>	<b>2</b>	<b>1.3E-06</b>

**EXHIBIT 27**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
1,4-Dichlorobenzene	No
Chloroform	No
Tetrachloroethene	Yes

**EXHIBIT 28**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>			
Chemical	1,4-Dichlorobenzene	Chloroform	Tetrachloroethene
Closest Monitoring Well	MW-40	MW-40	MW-40
Distance	29.3	29.3	29.3
Concentration	1 U	1 U	1.4
Second Closest Monitoring Well	MW-39R	MW-39R	MW-39R
Distance	44.33	44.33	44.33
Concentration	1 U	1 U	1 U
Third Closest Monitoring Well	MW-43A	MW-43A	MW-43A
Distance	53.7	53.7	53.7
Concentration	1 U	1 U	1 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S33**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 6 VMP samples.
- Tetrachloroethene was detected in the paired INA/VMP samples. Tetrachloroethene was detected in a higher concentration in the VMP sample compared with the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 29  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q2-S33-VMP, WEEK 19

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Chloroform	0.9	8.4E-07
Chloromethane	0.2	1.3E-08
<b>Tetrachloroethene</b>	85.3	<b>2.1E-05</b>
<b>Cumulative Cancer Risk</b>		<b>2.2E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	3.3	0.00006
Acetone	5.3	0.00002
Ethyl acetate	0.9	0.00003
Toluene	1.0	0.00002
<b>Cumulative Hazard Index</b>		<b>0.00013</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	3.3
Isopropyl alcohol	0.7
Dichlorodifluoromethane (Freon12)	1.6
Trichlorofluoromethane (Freon 11)	2.3

EXHIBIT 30  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S33-INA, WEEK 9

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Ethylbenzene	2	2.3E-06
Methylene chloride	1	1.5E-07
Tetrachloroethene	1	3.3E-06
Trichloroethene	1	9.0E-07
<b>Cumulative Cancer Risk</b>		<b>1.0E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
Cyclohexane	1	0.00017
Ethyl acetate	8	0.00249
Hexane	3	0.00478
Styrene	2	0.00232
Toluene	19	0.00378
Xylenes	9	0.07919
<b>Cumulative Hazard Index</b>		<b>0.35842</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	1,595
Isopropyl alcohol	35
n-Heptane	2
Dichlorodifluoromethane (Freon12)	4
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 31  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S33-INA/Q1-S33-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	1.09	ND	
1,2,4-Trimethylbenzene	1.92	ND	
1,3-Butadiene	5.81	ND	
2-Butanone (MEK)	6.16	1.80	3.43
2-Hexanone (MBK)	ND	0.49	
Acetone	53.23	10.79	4.93
Benzene	5.90	0.61	9.74
Chloroform	ND	1.51	
Chloromethane	4.69	ND	
Cyclohexane	1.03	ND	
Dichlorodifluoromethane	4.05	1.78	2.28
Ethanol	1595.12	22.25	71.69
Ethyl acetate	8.18	ND	
Ethylbenzene	2.25	ND	
Hexane	3.49	ND	
Isopropyl alcohol	34.60	1.03	33.57
m,p-Xylene	6.72	0.65	10.33
Methylene chloride	0.80	ND	
n-Heptane	2.21	0.49	4.50
o-Xylene	1.95	ND	
Styrene	2.42	ND	
<b>Tetrachloroethene</b>	<b>1.36</b>	<b>78.66</b>	<b>0.02</b>
Toluene	19.30	1.81	10.69
Trichloroethene	1.07	0.54	2.00
Trichlorofluoromethane	3.48	2.14	1.63

EXHIBIT 32  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S33-INA/Q1-S33-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
23	14	12	13
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 33  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:

Tetrachloroethene			
Sample No.	Week	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S33-VMP	28	65	1.6E-05
Q2-S33-VMP	19	85	2.1E-05
Q3-S33-PVMP	28	11	2.8E-06
Q2-S33-PVMP	19	9	2.2E-06
Q1-S33-VMP	9	79	1.9E-05
Q1-S33-PVMP	9	14	3.3E-06

EXHIBIT 34  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Tetrachloroethene	Yes

EXHIBIT 35  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-25A
Distance	31.51
Concentration	1 U
Second Closest Monitoring Well	MW-25B
Distance	33.86
Concentration	26
Third Closest Monitoring Well	MW-40
Distance	34.52
Concentration	1.4

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S36**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 36  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q3-S36-VMP, WEEK 27

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	0.1	3.1E-08
Chloroform	0.4	4.0E-07
<b>Tetrachloroethene</b>	<b>63.7</b>	<b>1.6E-05</b>
<b>Cumulative Cancer Risk</b>		<b>1.6E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
Acetone	5.6	0.00002
Styrene	0.3	0.00003
Toluene	1.5	0.00003
<b>Cumulative Hazard Index</b>		<b>0.00008</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	6.5
Isopropyl alcohol	0.9
n-Heptane	0.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.5
Dichlorodifluoromethane (Freon12)	0.7
Trichlorofluoromethane (Freon 11)	6.2

**EXHIBIT 37**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S36-INA, WEEK 6**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	2.0	9.0E-06
Benzene	1.2	3.9E-06
Carbon tetrachloride	0.6	3.5E-06
Chloromethane	1.2	8.6E-07
Ethylbenzene	0.4	4.5E-07
Methylene chloride	0.4	7.3E-08
Naphthalene	19.5	2.7E-04
<b>Cumulative Cancer Risk</b>		<b>2.9E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
Ethyl acetate	0.7	0.00022
Toluene	2.0	0.00040
Xylene	1.1	0.00990
<b>Cumulative Hazard Index</b>		<b>0.01052</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	0.5
Ethanol	79.4
Isopropyl alcohol	9.1
n-Heptane	0.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Trichlorofluoromethane (Freon 11)	1.5

EXHIBIT 38  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S36-INA/Q1-S36-VMP1

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,2-Trichlorotrifluoroethane	0.77	0.84	0.91
1,4-Dichlorobenzene	1.98	0.96	2.06
2-Butanone (MEK)	ND	1.56	
2-Hexanone (MBK)	0.53	0.86	0.62
Acetone	ND	9.67	
Benzene	1.21	0.73	1.65
Carbon tetrachloride	0.57	ND	
Chloroform	ND	0.54	
Chloromethane	1.20	ND	
Ethanol	79.38	11.88	6.68
Ethyl acetate	0.72	ND	
Ethylbenzene	0.43	ND	
Isopropyl alcohol	9.13	2.85	3.21
m,p-Xylene	1.08	0.56	1.92
Methylene chloride	0.38	ND	
Naphthalene	19.53	ND	
n-Heptane	0.49	ND	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>55.61</b>	
Toluene	2.03	0.79	2.57
Trichlorofluoromethane	1.52	7.31	0.21

EXHIBIT 39  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S36-INA/Q1-S36-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
16	13	9	11
Conclusion: No Evidence of Cross-Slab Transport			



**EXHIBIT 40**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S36-VMP</b>	<b>27</b>	<b>64</b>	<b>1.6E-05</b>
<b>Q2-S36-VMP</b>	<b>19</b>	<b>60</b>	<b>1.5E-05</b>
<b>Q1-S36-VMP</b>	<b>6</b>	<b>56</b>	<b>1.4E-05</b>

**EXHIBIT 41**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 42**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-25A
Distance	38.11
Concentration	1 U
Second Closest Monitoring Well	MW-25B
Distance	43.33
Concentration	26
Third Closest Monitoring Well	MW-40
Distance	52.71
Concentration	1.4

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S37**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 3 nearby groundwater wells.

EXHIBIT 43  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q1-S37-VMP, WEEK 7

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	7	2.1E-06
Methyl tert-butyl ether	3	2.8E-08
<b>Tetrachloroethene</b>	652	<b>1.6E-04</b>
Tetrahydrofuran	1	1.4E-07
Trichloroethene	1	1.0E-07
<b>Cumulative Cancer Risk</b>		<b>1.6E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	9	0.00018
Acetone	68	0.00021
Ethyl acetate	1	0.00003
Hexane	2	0.00026
Toluene	2	0.00003
<b>Cumulative Hazard Index</b>		<b>0.00071</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	3
Ethanol	20
Isopropyl alcohol	9
n-Heptane	3
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 44  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S37-INA, WEEK 6

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	3.3E-06
Chloromethane	1	5.5E-07
<b>Cumulative Cancer Risk</b>		<b>3.8E-06</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	2	0.30305
Acetone	17	0.00052
Cyclohexane	1	0.00017
Hexane	1	0.00193
Toluene	2	0.00040
Xylene	2	0.01425
<b>Cumulative Hazard Index</b>		<b>0.32033</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	245
Isopropyl alcohol	6

EXHIBIT 45  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S37-INA/Q1-S37-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	2.21	ND	
2-Butanone (MEK)	ND	9.26	
2-Hexanone (MBK)	ND	3.44	
Acetone	16.59	67.96	0.24
Benzene	1.02	6.51	0.16
Chloromethane	0.76	ND	
Cyclohexane	1.07	ND	
Dichlorodifluoromethane	ND	3.12	
Ethanol	245.11	19.80	12.38
Ethyl acetate	ND	1.04	
Hexane	1.41	1.87	0.75
Isopropyl alcohol	6.31	8.76	0.72
m,p-Xylene	1.56	ND	
Methyl tert-butyl ether	ND	2.67	
n-Heptane	ND	2.87	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>652.35</b>	
Tetrahydrofuran	ND	1.27	
Toluene	2.07	1.58	1.31
Trichloroethene	ND	1.24	
Trichlorofluoromethane	ND	1.74	

EXHIBIT 46  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S37-INA/Q1-S37-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
10	16	6	14
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 47  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q2-S37-VMP	20	0	3.0E-06
<b>Q3-S37-VMP</b>	<b>31</b>	<b>501</b>	<b>1.2E-04</b>
<b>Q1-S37-VMP</b>	<b>7</b>	<b>652</b>	<b>1.6E-04</b>

EXHIBIT 48  
SPATIAL ANALYSIS OF NEARBY HOMES

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

EXHIBIT 49  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS

<b>Summary Information and Data</b>	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-44B
Distance	27.74
Concentration	14
Second Closest Monitoring Well	MW-44A
Distance	27.87
Concentration	6.2
Third Closest Monitoring Well	MW-27A
Distance	31.8
Concentration	5.9

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S45**

**Chemical of Concern for this home:**

- Naphthalene

**Principal Findings/Conclusion:**

- Naphthalene was detected in one VMP sample.
- Naphthalene was detected above an acceptable risk level of 1.0E-05 in 1 sample.
- Naphthalene was detected in the paired VMP sample, but not in the INA sample.
- Naphthalene was not detected in nearby groundwater wells.

EXHIBIT 50  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q1-S45-VMP, WEEK 12

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	1	1.9E-07
<b>Naphthalene</b>	<b>23</b>	<b>3.2E-05</b>
Tetrachloroethene	1	2.6E-07
Tetrahydrofuran	1	1.2E-07
<b>Cumulative Cancer Risk</b>		<b>3.2E-05</b>
Noncarcinogenic Chemicals		
Noncarcinogens	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	6	0.00012
Acetone	12	0.00004
Toluene	4	0.00007
<b>Cumulative Hazard Index</b>		<b>0.00023</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	1
Ethanol	32
Isopropyl alcohol	7
n-Heptane	1
1,1,2-Trichlorotrifluoroethane (Freon 113)	1
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	1

**EXHIBIT 51**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S45-INA, WEEK 12**

Carcinogenic Chemicals		
Carcinogens	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	3.3E-06
Chloromethane	2	1.1E-06
<b>Cumulative Cancer Risk</b>		<b>4.4E-06</b>
Noncarcinogenic Chemicals		
Noncarcinogens	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	1	0.00026
Acetone	26	0.00082
Toluene	3	0.00054
<b>Cumulative Hazard Index</b>		<b>0.00161</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	349
Isopropyl alcohol	110
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 52  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S45-INA/Q1-S45-VMP1

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,2-Trichlorotrifluoroethane	ND	0.77	
2-Butanone (MEK)	1.33	6.07	0.22
2-Hexanone (MBK)	ND	1.02	
Acetone	26.14	12.36	2.12
Benzene	1.02	0.57	1.78
Chloromethane	1.57	ND	
Dichlorodifluoromethane	3.26	1.98	1.65
Ethanol	348.81	32.43	10.76
Isopropyl alcohol	110.43	7.12	15.52
<b>Naphthalene</b>	<b>ND</b>	<b>22.83</b>	
n-Heptane	ND	0.98	
Tetrachloroethene	ND	1.08	
Tetrahydrofuran	ND	1.12	
Toluene	2.75	3.57	0.77
Trichlorofluoromethane	2.02	1.35	1.50

EXHIBIT 53  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S45-INA/Q1-S45-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
9	14	8	7
Conclusion: No Evidence of Cross-Slab Transport			



**EXHIBIT 54**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Naphthalene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q1-S45-VMP</b>	<b>12</b>	<b>22.8</b>	<b>3.2E-05</b>

**EXHIBIT 55**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Naphthalene	No

**EXHIBIT 56**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Naphthalene</b>
Closest Monitoring Well	MW-51
Distance	117.5
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	118.9
Concentration	1 U
Third Closest Monitoring Well	MW-41A
Distance	119.61
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S57**

**Chemical of Concern observed at this home:**

- None

**Principal Findings/Conclusion:**

- Naphthalene was initially identified as a COC but further analysis showed that the risk was less than  $1 \times 10^{-5}$ .

EXHIBIT 57  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q2-S57-VMP1, WEEK 16

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	1	5.7E-07
Benzene	0	1.2E-07
<b>Naphthalene</b>	<b>7</b>	<b>9.3E-06</b>
Tetrachloroethene	1	2.6E-07
<b>Cumulative Cancer Risk</b>		<b>1.0E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	2	0.00004
Acetone	7	0.00002
Toluene	2	0.00004
<b>Cumulative Hazard Index</b>		<b>0.00010</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	5
Isopropyl alcohol	1
n-Heptane	1
2-Hexanone (MBK)	1
Dichlorodifluoromethane (Freon 12)	2
Trichlorofluoromethane (Freon 11)	1

**EXHIBIT 58**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S57-INA, WEEK 5**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	4.0E-06
Chloromethane	1	9.7E-07
<b>Cumulative Cancer Risk</b>		<b>5.0E-06</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	1	0.0002
Acetone	14	0.0004
Cyclohexane	1	0.0001
Hexane	1	0.0017
Toluene	2	0.0004
Xylene	1	0.0063
<b>Cumulative Hazard Index</b>		<b>0.0092</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	89
Isopropyl alcohol	4
n-Heptane	1
Dichlorodifluoromethane (Freon 12)	2
Trichlorofluoromethane (Freon 11)	1

**EXHIBIT 59**  
**CALCULATED ATTENUATION FACTORS:**  
**INDOOR AIR/SUB-SLAB VAPOR SAMPLES:**  
**Q1-S57-INA/Q1-S57-VMP1**

<b>Chemical</b>	<b>Indoor Air Concentration (µg/m<sup>3</sup>)</b>	<b>Sub-Slab Concentration (µg/m<sup>3</sup>)</b>	<b>Ratio: Indoor Air/ Sub-Slab</b>
1,2,4-Trimethylbenzene	ND	0.59	
2-Butanone (MEK)	1.12	1.47	0.76
2-Hexanone (MBK)	ND	1.11	
4-Methyl-2-pentanone (MIBK)	ND	1.15	
Acetone	14.28	29.70	0.48
Benzene	1.24	0.45	2.79
Carbon disulfide	ND	1.03	
Chloromethane	1.36	ND	
Cyclohexane	0.86	ND	
Dichlorodifluoromethane	1.53	1.38	1.11
Ethanol	89.18	5.90	15.11
Hexane	1.23	0.42	2.92
Isopropyl alcohol	3.71	0.96	3.87
m,p-Xylene	0.69	0.48	1.45
n-Heptane	0.90	0.53	1.69
Toluene	1.81	1.02	1.78
Trichlorofluoromethane	1.40	1.52	0.93

**EXHIBIT 60**  
**SUMMARY ATTENUATION FACTORS:**  
**INDOOR AIR/SUB-SLAB VAPOR SAMPLES:**  
**Q1-S57-INA/Q1-S57-VMP1**

<b>No. Chemicals Detected In Indoor Air Sample</b>	<b>No. Chemicals Detected In VMP Sample</b>	<b>Matched Pairs</b>	<b>Unmatched Chemicals</b>
13	15	11	6
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 61  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:

<b>Naphthalene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S57-VMP2	28	ND	
Q3-S57-VMP1	28	ND	
Q2-S57-VMP2	16	ND	
<b>Q2-S57-VMP1</b>	<b>16</b>	<b>7</b>	<b>9.3E-06</b>
Q1-S57-VMP2	5	ND	
Q1-S57-VMP1	5	ND	

EXHIBIT 62  
SPATIAL ANALYSIS OF NEARBY HOMES

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Naphthalene	No

**EXHIBIT 63**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	Naphthalene
Closest Monitoring Well	MW-41A
Distance	45.94
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	46.59
Concentration	1 U
Third Closest Monitoring Well	GP-2F
Distance	71.47
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S73**

**Chemical of Concern observed at this home:**

- Naphthalene

**Principal Findings/Conclusion:**

- Naphthalene was detected in 1 VMP sample.
- Naphthalene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 6 VMP samples.
- Naphthalene was detected in a lower concentration in the paired VMP sample compared with the INA sample.
- Naphthalene was not detected in nearby groundwater wells.

**EXHIBIT 64**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q2-S73-VMP1, WEEK 14**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Naphthalene	11	1.6E-05
Tetrachloroethene	2	5.8E-07
<b>Cumulative Cancer Risk</b>		<b>1.6E-05</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	2	0.00004
Acetone	9	0.00003
Toluene	2	0.00004
<b>Cumulative Hazard Index</b>		<b>0.00011</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Ethanol	28
Isopropyl alcohol	6
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

**EXHIBIT 65**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**FOR INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q2-S73-INA, WEEK 21**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	3	1.3E-05
Benzene	1	3.2E-06
Chloroform	3	2.6E-05
Chloromethane	2	1.2E-06
Ethylbenzene	1	1.2E-06
<b>Naphthalene</b>	<b>32</b>	<b>4.5E-04</b>
Tetrachloroethene	3	7.6E-06
<b>Cumulative Cancer Risk</b>		<b>5.0E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	3	0.35693
2-Butanone (MEK)	3	0.00060
Acetone	55	0.00171
Ethyl acetate	10	0.00307
Hexane	3	0.00382
Styrene	3	0.00330
Toluene	6	0.00113
Xylenes	5	0.04276
<b>Cumulative Hazard Index</b>		<b>0.41332</b>



Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Carbon disulfide	1
Ethanol	373
Isopropyl alcohol	100
n-Heptane	1
Dichlorodifluoromethane (Freon12)	4
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 66  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S73-INA/Q1-S73-VMP1

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	2.61	ND	
1,4-Dichlorobenzene	2.83	ND	
2-Butanone (MEK)	3.13	ND	
Acetone	54.65	9.24	5.91
Benzene	0.99	ND	
Carbon disulfide	0.84	ND	
Chloroform	2.87	ND	
Chloromethane	1.63	ND	
Dichlorodifluoromethane	3.61	2.92	1.24
Ethanol	373.33	27.91	13.38
Ethyl acetate	10.09	ND	
Ethylbenzene	1.13	ND	
Hexane	2.79	ND	
Isopropyl alcohol	100.12	5.89	17.00
m,p-Xylene	3.56	ND	
<b>Naphthalene</b>	<b>32.30</b>	<b>11.36</b>	<b>2.84</b>
n-Heptane	1.31	ND	
o-Xylene	1.13	ND	
Styrene	3.45	ND	
Tetrachloroethene	3.12	2.37	1.31
Toluene	5.79	2.26	2.57
Trichlorofluoromethane	2.87	1.80	1.59

EXHIBIT 67  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S73-INA/Q1-S73-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
22	8	8	14
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 68  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:

Naphthalene			
Sample No.	Week	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S73-VMP2	29	ND	
Q3-S73-VMP1	29	ND	
<b>Q2-S73-VMP1</b>	<b>14</b>	<b>11</b>	<b>1.6E-05</b>
Q1-S73-VMP2	3	ND	
Q1-S73-VMP1	3	ND	
Q2-S73-VMP2	14	ND	

EXHIBIT 69  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Naphthalene	No

**EXHIBIT 70**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	Naphthalene
Closest Monitoring Well	GP-2E
Distance	13.89
Concentration	2 U
Second Closest Monitoring Well	MW-25B
Distance	44.86
Concentration	2 U
Third Closest Monitoring Well	MW-25A
Distance	50.5
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S88**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 1 out of 3 nearby groundwater wells.

EXHIBIT 71  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q3-S88-VMP, WEEK 27

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Tetrachloroethene	47	1.1E-05
Cumulative Cancer Risk		1.1E-05
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
Acetone	8	0.00002
Cumulative Hazard Index		0.00002

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	2
Isopropyl alcohol	3
Trichlorofluoromethane (Freon 11)	4

EXHIBIT 72  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S88-INA, WEEK 4

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Benzene	1	4.3E-06
Chloromethane	2	1.3E-06
<b>Cumulative Cancer Risk</b>		<b>5.6E-06</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	3	0.00066
Acetone	21	0.00065
Ethyl acetate	5	0.00158
Hexane	2	0.00246
Toluene	4	0.00087
<b>Cumulative Hazard Index</b>		<b>0.00623</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	298
Isopropyl alcohol	42
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	4

EXHIBIT 73  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S88-INA/Q1-S88-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	ND	0.64	
2-Butanone (MEK)	3.45	4.16	0.83
2-Hexanone (MBK)	ND	1.31	
4-Methyl-2-pentanone (MIBK)	ND	0.78	
Acetone	20.91	28.75	0.73
Benzene	1.34	1.08	1.24
Chloromethane	1.86	0.54	3.46
Dichlorodifluoromethane	2.18	1.09	2.00
Ethanol	297.91	8.77	33.98
Ethyl acetate	5.19	0.50	10.29
Hexane	1.80	0.35	5.10
Isopropyl alcohol	42.21	ND	
m,p-Xylene	ND	0.74	
n-Heptane	ND	0.41	
Styrene	ND	1.28	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>28.48</b>	
Tetrahydrofuran	ND	0.32	
Toluene	4.44	1.32	3.37
Trichloroethene	ND	0.70	
Trichlorofluoromethane	3.54	1.97	1.80

EXHIBIT 74  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S88-INA/Q1-S88-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
11	19	10	10
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 75**  
**COMPARING TETRACHLOROETHENE CONCENTRATION AND**  
**RISKS-ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S88-VMP</b>	<b>27</b>	<b>47</b>	<b>1.1E-05</b>
<b>Q2-S88-VMP</b>	<b>15</b>	<b>40</b>	<b>9.9E-06</b>
<b>Q1-S88-VMP</b>	<b>4</b>	<b>28</b>	<b>6.9E-06</b>

**EXHIBIT 76**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

EXHIBIT 77  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

<b>Summary Information and Data</b>	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-40
Distance	31.81
Concentration	1.4
Second Closest Monitoring Well	MW-39R
Distance	41.1
Concentration	1 U
Third Closest Monitoring Well	MW-43A
Distance	49.19
Concentration	1 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S96**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 78  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q3-S96-VMP, WEEK 32

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	0.2	5.1E-08
Carbon tetrachloride	0.8	4.7E-07
Chloroform	5.2	4.7E-06
Methylene chloride	0.1	2.7E-09
<b>Tetrachloroethene</b>	<b>65.3</b>	<b>1.6E-05</b>
Trichloroethene	1.7	1.4E-07
<b>Cumulative Cancer Risk</b>		<b>2.1E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	7.0	0.00013
2-Butanone (MEK)	1.5	0.00003
Acetone	9.0	0.00003
Ethyl acetate	1.9	0.00006
Toluene	0.5	0.00001
<b>Cumulative Hazard Index</b>		<b>0.00026</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Carbon disulfide	0.1
Ethanol	2.3
Isopropyl alcohol	0.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	7.7
Dichlorodifluoromethane (Freon12)	3.2
Trichlorofluoromethane (Freon 11)	4.9

**EXHIBIT 79**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S96-INA, WEEK 10**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Chloromethane	1	2.1E+01
Methylene chloride	1	2.1E+01
<b>Cumulative Cancer Risk</b>		<b>2.1E+01</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	2	0.00039
Acetone	26	0.00080
Cyclohexane	1	0.00017
Ethyl acetate	12	0.00358
Styrene	2	0.00187
Toluene	8	0.00151
Xylene	1	0.01307
<b>Cumulative Hazard Index</b>		<b>0.02139</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Dichlorodifluoromethane (Freon12)	3
Ethanol	535
Isopropyl alcohol	30
n-Heptane	2
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 80  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	ND	4.69	
1,1,2-Trichlorotrifluoroethane	ND	9.43	
1,1-Dichloroethene	ND	0.67	
2-Butanone (MEK)	2.03	2.77	0.73
2-Hexanone (MBK)	ND	0.78	
Acetone	25.66	20.67	1.24
Benzene	ND	0.83	
Carbon disulfide	ND	1.12	
Chloroform	ND	3.31	
Chloromethane	1.49	ND	
Cyclohexane	1.07	0.41	2.58
Dichlorodifluoromethane	2.92	1.78	1.64
Ethanol	535.48	27.91	19.19
Ethyl acetate	11.75	0.54	21.73
Hexane	ND	0.60	
Isopropyl alcohol	29.69	7.73	3.84
m,p-Xylene	1.43	0.61	2.36
Methylene chloride	1.11	0.80	1.39
n-Heptane	2.01	1.52	1.32
Styrene	1.96	ND	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>65.17</b>	
Tetrahydrofuran	ND	0.86	
Toluene	7.71	4.55	1.69
Trichloroethene	ND	0.97	
Trichlorofluoromethane	2.59	3.71	0.70

**EXHIBIT 81**  
**SUMMARY ATTENUATION FACTORS:**  
**INDOOR AIR/SUB-SLAB VAPOR SAMPLES:**

<b>No. Chemicals Detected In Indoor Air Sample</b>	<b>No. Chemicals Detected In VMP Sample</b>	<b>Matched Pairs</b>	<b>Unmatched Chemicals</b>
14	23	12	13
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 82**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (µm/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
<b>Q1-S96-VMP</b>	<b>10</b>	<b>65</b>	<b>1.6E-05</b>
<b>Q2-S96-VMP</b>	<b>23</b>	<b>69</b>	<b>1.7E-05</b>
<b>Q3-S96-VMP</b>	<b>32</b>	<b>65</b>	<b>1.6E-05</b>

**EXHIBIT 83**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

EXHIBIT 84  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

<b>Summary Information and Data</b>	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-54
Distance	116.69
Concentration	1 U
Second Closest Monitoring Well	MW-29B
Distance	121.67
Concentration	8.3
Third Closest Monitoring Well	MW-29A
Distance	121.76
Concentration	1.3

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S107**

**Chemicals of Concern observed at this home:**

- Chloroform and tetrachloroethene

**Principal Findings/Conclusion:**

- Chloroform and tetrachloroethene were each detected in multiple VMP samples.
- Chloroform and tetrachloroethene were each detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Chloroform and tetrachloroethene were each detected in higher concentrations in paired VMP samples compared with INA.
- Chloroform was not detected in nearby groundwater wells. Tetrachloroethene was detected in 1 out of 3 nearby groundwater wells.

**EXHIBIT 85**  
**SAMPLING RESULTS AND CUMULATIVE RISK;**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q1-S107-VMP, WEEK 7**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Benzene	0.5	1.5E-07
Chloroform	19.5	1.8E-05
Tetrachloroethene	36.3	8.9E-06
Trichloroethene	0.7	5.8E-08
<b>Cumulative Cancer Risk</b>		<b>2.7E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	6.1	0.00012
1,2,4-Trimethylbenzene	0.6	0.00875
2-Butanone (MEK)	1.9	0.00004
Acetone	7.0	0.00002
Ethyl acetate	0.4	0.00001
Toluene	2.9	0.00006
Xylene	1.0	0.00087
<b>Cumulative Hazard Index</b>		<b>0.00987</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	6.1
Ethanol	0.6
n-Heptane	1.9
1,1,2-Trichlorotrifluoroethane (Freon 113)	7.0
Dichlorodifluoromethane (Freon 12)	0.4
Trichlorofluoromethane (Freon 11)	2.9

**EXHIBIT 86**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S107-INA, WEEK 7**

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	1.0	3.1E-06
Chloroform	0.7	6.6E-06
Chloromethane	1.6	1.1E-06
Tetrachloroethene	0.9	2.2E-06
<b>Cumulative Cancer Risk</b>		<b>1.3E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,2,4-Trimethylbenzene	0.5	0.07408
2-Butanone (MEK)	2.2	0.00041
Acetone	14.9	0.00046
Ethyl acetate	0.6	0.00020
Hexane	1.5	0.00208
Toluene	1.8	0.00036
<b>Cumulative Hazard Index</b>		<b>0.08512</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	1
Ethanol	65
Isopropyl alcohol	8
n-Heptane	0
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	1

EXHIBIT 87  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S107-INA/Q1-S107-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	ND	6.11	
1,2,4-Trimethylbenzene	0.54	0.64	0.85
2-Butanone (MEK)	2.15	1.89	1.14
Acetone	14.88	7.03	2.11
Benzene	0.96	0.48	2.00
<b>Chloroform</b>	<b>0.73</b>	<b>19.52</b>	<b>0.04</b>
Chloromethane	1.57	ND	
Ethyl acetate	0.65	0.36	1.80
Hexane	1.52	ND	
<b>Tetrachloroethene</b>	<b>0.88</b>	<b>36.35</b>	<b>0.02</b>
Toluene	1.84	2.90	0.64
Trichloroethene	ND	0.70	
Xylene	ND	0.95	



**EXHIBIT 88**  
**SUMMARY ATTENUATION FACTORS:**  
**INDOOR AIR/SUB-SLAB VAPOR SAMPLES:**  
**Q1-S107-INA/Q1-S107-VMP**

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
10	11	8	5
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 89**  
**COMPARING CHLOROFORM AND TETRACHLOROETHENE**  
**CONCENTRATION AND RISKS ALL VMP SAMPLES**

Sample No.	Week	Chemical	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S107-VMP	28	Chloroform	6	5.6E-06
Q3-S107-VMP	28	Tetrachloroethene	44	1.1E-05
Q2-S107-VMP	15	Chloroform	12	1.1E-05
Q2-S107-VMP	15	Tetrachloroethene	48	1.2E-05
Q1-S107-VMP	7	Chloroform	20	1.8E-05
Q1-S107-VMP	7	Tetrachloroethene	36	8.9E-06

**EXHIBIT 90**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No
Tetrachloroethene	Yes

**EXHIBIT 91  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS**

<b>Summary Information and Data</b>		
Chemical	Chloroform	Tetrachloroethene
Closest Monitoring Well	MW-54	MW-54
Distance	63.99	63.99
Concentration	1 U	1 U
Second Closest Monitoring Well	MW-53	MW-53
Distance	83.59	83.59
Concentration	1 U	1 U
Third Closest Monitoring Well	MW-29B	MW-29B
Distance	85.89	85.89
Concentration	1 U	8.3

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S121**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 92  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
SUB-SLAB VAPOR SAMPLE: Q2-S121-VMP, WEEK 22

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	1.2	5.5E-07
Chloroform	4.0	3.7E-06
Chloromethane	0.3	1.9E-08
Methylene chloride	0.3	6.7E-09
<b>Tetrachloroethene</b>	<b>52.5</b>	<b>1.3E-05</b>
Trichloroethene	34.0	2.8E-06
<b>Cumulative Cancer Risk</b>		<b>2.0E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	1.5	0.00003
Acetone	9.8	0.00003
cis-1,2-Dichloroethene	8.8	0.02412
Ethyl acetate	0.6	0.00002
Toluene	1.5	0.00003
<b>Cumulative Hazard Index</b>		<b>0.02423</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Carbon disulfide	0.3
Ethanol	10.5
Isopropyl alcohol	2.9
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.9
1,2-Dichlorotetrafluoroethane (Freon 114)	8.9
Dichlorodifluoromethane (Freon12)	16.4
Trichlorofluoromethane (Freon 11)	12.1

**EXHIBIT 93**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q1-S121-INA, WEEK 11**

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	2	5.7E-06
Chloromethane	1	9.7E-07
Methylene chloride	1	2.0E-07
Naphthalene	10	1.4E-04
<b>Cumulative Cancer Risk</b>		<b>1.5E-04</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	3	0.00066
Acetone	86	0.00267
Ethyl acetate	2	0.00071
Hexane	5	0.00637
<b>Cumulative Hazard Index</b>		<b>0.04257</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	447
Isopropyl alcohol	65
n-Heptane	2
1,2-Dichlorotetrafluoroethane (Freon 114)	34
Dichlorodifluoromethane (Freon12)	63
Trichlorofluoromethane (Freon 11)	35

EXHIBIT 94  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S121-IND/Q1-S121-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,4-Dichlorobenzene	ND	0.54	
2-Butanone (MEK)	3.45	3.45	1.00
2-Hexanone (MBK)	ND	0.66	
4-Methyl-2-pentanone (MIBK)		0.37	
Acetone	85.55	15.83	5.41
Benzene	1.75	0.70	2.50
Chloroform	ND	1.31	
Chloromethane	1.36	ND	
cis-1,2-Dichloroethene	ND	17.61	
Ethanol	446.86	9.67	46.20
Ethyl acetate	2.34	ND	
Hexane	4.65	0.39	12.00
Isopropyl alcohol	65.03	1.91	33.97
Methylene chloride	1.04	ND	
Naphthalene	10.42	ND	
n-Heptane	1.52	0.70	2.18
<b>Tetrachloroethene</b>	<b>ND</b>	<b>16.14</b>	
Toluene	6.47	4.29	1.51
trans-1,2-Dichloroethene	ND	0.59	
Trichloroethene	ND	10.10	
Xylene	3.38	0.56	6.00

EXHIBIT 95  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S121-IND/Q1-S121-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
13	17	9	12
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 96  
COMPARING TETRACHLOROETHENE CONCENTRATION AND  
RISKS-ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S121-VMP</b>	<b>32</b>	<b>50</b>	<b>1.2E-05</b>
<b>Q2-S121-VMP</b>	<b>22</b>	<b>52</b>	<b>1.3E-05</b>
<b>Q1-S121-VMP</b>	<b>11</b>	<b>16</b>	<b>3.9E-06</b>

**EXHIBIT 97  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 98  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	MW-31B
Distance	32.12
Concentration	17
Second Closest Monitoring Well	MW-42
Distance	32.78
Concentration	1.1
Third Closest Monitoring Well	MW-55
Distance	68.89
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S143**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 6 VMP samples.
- Tetrachloroethene was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Tetrachloroethene was detected in 3 out of 3 nearby groundwater wells.

EXHIBIT 99  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q3-S143-VMP2, WEEK 28

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,2-Dichloroethane	2.8	3.0E-06
1,4-Dichlorobenzene	2.2	9.8E-07
Benzene	0.6	2.1E-07
Chloroform	0.3	2.7E-07
Chloromethane	0.3	2.1E-08
Cyclohexane	18.6	3.0E-10
Ethylbenzene	3.9	4.0E-07
Methylene chloride	0.7	1.3E-08
<b>Tetrachloroethene</b>	<b>202.8</b>	<b>4.9E-05</b>
Tetrahydrofuran	1.3	1.4E-07
Trichloroethene	0.3	2.2E-08
<b>Cumulative Cancer Risk</b>		<b>5.4E-05</b>



<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	13.6	0.00026
1,2,4-Trimethylbenzene	4.3	0.05926
1,3,5-Trimethylbenzene	2.4	0.03824
2-Butanone (MEK)	10.2	0.00020
Acetone	40.6	0.00013
Ethyl acetate	54.4	0.00166
Styrene	5.8	0.00056
Toluene	113.3	0.00222
Xylene	8.3	0.00758
<b>Cumulative Hazard Index</b>		<b>0.11010</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Carbon disulfide	5.4
Ethanol	146.7
2-Hexanone (MBK)	0.5
4-Ethyltoluene	1.7
4-Isopropyltoluene	0.7
n-Heptane	28.9
Propene	0.4
Isopropyl alcohol	31.7
Isopropylbenzene	1.3
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.5
Dichlorodifluoromethane (Freon 12)	0.9
Trichlorofluoromethane (Freon 11)	1.9

EXHIBIT 100  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S143-INA, WEEK 11

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	3.1	1.4E-05
Benzene	1.4	4.5E-06
Chloromethane	1.1	8.0E-07
Ethylbenzene	1.3	1.4E-06
Methylene chloride	4.2	8.1E-07
Tetrachloroethene	2.1	5.1E-06
Tetrahydrofuran	12.2	1.3E-05
<b>Cumulative Cancer Risk</b>		<b>4.0E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	2.9	0.00056
1,2,4-Trimethylbenzene	0.8	0.11449
1,3,5-Trimethylbenzene	0.5	0.07803
2-Butanone (MEK)	12.9	0.00248
Acetone	21.3	0.00066
Cyclohexane	0.6	0.00009
Ethyl acetate	1.4	0.00044
Hexane	5.1	0.00695
Styrene	0.6	0.00057
Toluene	6.7	0.00131
Xylenes	3.4	0.03088
<b>Cumulative Hazard Index</b>		<b>0.23648</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	42.2
Isopropyl alcohol	55.0
n-Heptane	1.4
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.7
Dichlorodifluoromethane (Freon12)	2.5
Trichlorofluoromethane (Freon 11)	3.0

EXHIBIT 101  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S143-INA/Q1-S143-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	2.95	4.58	0.64
1,2,4-Trimethylbenzene	0.84	0.59	1.42
1,4-Dichlorobenzene	3.13	0.72	4.33
2-Butanone (MEK)	12.92	1.92	6.74
Acetone	21.27	7.60	2.80
Benzene	1.40	1.60	0.88
Ethanol	42.23	12.75	3.31
Ethyl acetate	1.44	ND	
Ethylbenzene	1.34	ND	
Hexane	5.08	ND	
Isopropyl alcohol	54.97	3.07	17.92
m,p-Xylene	2.60	ND	
Methylene chloride	4.20	ND	
n-Heptane	1.39	0.94	1.48
o-Xylene	0.78	ND	
Styrene	0.60	0.51	1.17
<b>Tetrachloroethene</b>	<b>2.10</b>	<b>5.15</b>	<b>0.41</b>
Tetrahydrofuran	12.18	17.37	0.70
Toluene	6.70	4.40	1.52

EXHIBIT 102  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S143-INA/Q1-S143-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
19	13	13	6
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 103**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES:**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S143-VMP2-A</b>	<b>35</b>	<b>207</b>	<b>5.E-05</b>
<b>Q3-S143-VMP2</b>	<b>28</b>	<b>203</b>	<b>5.E-05</b>
Q3-S143-VMP1-A	35	14	3.E-06
Q3-S143-VMP1	28	8	2.E-06
<b>Q1-S143-VMP2</b>	<b>11</b>	<b>177</b>	<b>4.E-05</b>
Q1-S143-VMP1	11	5	1.E-06

**EXHIBIT 104**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 105**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	MW-44B
Distance	26.65
Concentration	14
Second Closest Monitoring Well	MW-44A
Distance	26.9
Concentration	6.2
Third Closest Monitoring Well	MW-40
Distance	42.03
Concentration	1.4

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S176**

**Chemicals of Concern observed at this home:**

- 1,4-Dichlorobenzene and tetrachloroethene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene and tetrachloroethene were each detected in multiple VMP samples.
- Neither 1,4-dichlorobenzene nor tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in any of the 6 VMP samples.
- 1,4-Dichlorobenzene was detected in a higher concentration in the paired VMP sample compared with the INA sample. Tetrachloroethene was detected in a higher concentration in the paired INA sample compared with the VMP sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells. Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 106  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q2-S176-VMP2, WEEK 22

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
<b>1,4-Dichlorobenzene</b>	<b>11.7</b>	<b>5.3E-06</b>
Benzene	0.4	1.2E-07
Chloroform	0.5	4.9E-07
Chloromethane	1.1	7.5E-08
Methyl tert-butyl ether	3.7	4.0E-08
Methylene chloride	0.4	8.0E-09
<b>Tetrachloroethene</b>	<b>20.5</b>	<b>5.0E-06</b>
<b>Cumulative Cancer Risk</b>		<b>1.1E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	0.7	0.00001
2-Butanone (MEK)	7.6	0.00015
Acetone	33.8	0.00011
Ethyl acetate	2.9	0.00009
Toluene	2.5	0.00005
Xylene	0.6	0.00051
<b>Cumulative Hazard Index</b>		<b>0.00092</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Carbon disulfide	1.1
2-Hexanone (MBK)	1.1
4-Methyl-2-pentanone (MIBK)	0.6
Ethanol	7.1
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Dichlorodifluoromethane (Freon12)	3.3
Trichlorofluoromethane (Freon 11)	2.6

EXHIBIT 107  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q2-S176-INA, WEEK 22

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,2-Dichloroethane	4	4.6E-05
1,4-Dichlorobenzene	7	3.0E-05
Benzene	5	1.8E-05
Carbon disulfide	2	1.4E-05
Chloroform	3	2.7E-05
Chloromethane	2	1.1E-06
Ethylbenzene	7	7.3E-06
Methylene chloride	6	1.2E-06
Tetrachloroethene	42	1.0E-04
<b>Cumulative Cancer Risk</b>		<b>2.5E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	22	3.03051
1,3,5-Trimethylbenzene	7	1.10809
2-Butanone (MEK)	8	0.00157
Acetone	147	0.00460
Cyclohexane	7	0.00120
Hexane	27	0.03695
Styrene	3	0.00322
Toluene	30	0.00595
Xylenes	38	0.34525
<b>Cumulative Hazard Index</b>		<b>4.53733</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m3)</b>
4-Ethyltoluene	10
4-Methyl-2-pentanone (MIBK)	2
Ethanol	415
Isopropyl alcohol	94
Isopropylbenzene	2
n-Heptane	10
Dichlorodifluoromethane (Freon12)	4
Trichlorofluoromethane (Freon 11)	3



EXHIBIT 108  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S176-INA/Q1-S176-VMP1

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	ND	0.60	
1,2,4-Trimethylbenzene	22.12	ND	
1,2-Dichloroethane	4.29	ND	
1,3,5-Trimethylbenzene	6.98	ND	
<b>1,4-Dichlorobenzene</b>	<b>6.67</b>	<b>14.55</b>	<b>0.46</b>
2-Butanone (MEK)	8.17	5.16	1.58
2-Hexanone (MBK)	ND	0.37	
4-Ethyltoluene	9.73	ND	
4-Methyl-2-pentanone (MIBK)	2.17	ND	
Acetone	147.33	18.99	7.76
Benzene	5.49	ND	
Carbon disulfide	2.21	0.31	7.10
Chloroform	2.92	ND	
Chloromethane	1.53	0.52	2.96
Cyclohexane	7.47	ND	
Ethanol	414.81	5.56	74.58
Ethyl acetate	2.45	ND	
Ethylbenzene	7.11	ND	
Hexane	26.97	ND	
Isopropyl alcohol	94.23	1.82	51.89
Isopropylbenzene	1.52	ND	
m,p-Xylene	26.01	ND	
Methylene chloride	6.04	ND	
n-Heptane	9.75	ND	
o-Xylene	11.79	ND	
Styrene	3.36	ND	
<b>Tetrachloroethene</b>	<b>42.31</b>	<b>12.21</b>	<b>3.47</b>
Toluene	30.40	1.66	18.36

EXHIBIT 109  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S176-INA/Q1-S176-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
26	11	9	19
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 110  
COMPARING CONCENTRATION AND RISK FOR ALL VMP  
SAMPLES

Sample No.	Week	Chemical	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S176-VMP2	30	1,4-Dichlorobenzene	ND	
Q3-S176-VMP2	30	Tetrachloroethene	27	6.6E-06
Q3-S176-VMP1	30	1,4-Dichlorobenzene	2	9.3E-07
Q3-S176-VMP1	30	Tetrachloroethene	24	5.8E-06
Q2-S176-VMP2	22	1,4-Dichlorobenzene	12	5.3E-06
Q2-S176-VMP2	22	Tetrachloroethene	21	5.0E-06
Q2-S176-VMP1	22	1,4-Dichlorobenzene	15	0.0E+00
Q2-S176-VMP1	22	Tetrachloroethene	12	3.0E-06
Q1-S176-VMP2	2	1,4-Dichlorobenzene	ND	
Q1-S176-VMP2	2	Tetrachloroethene	2	5.3E-07
Q1-S176-VMP1	2	1,4-Dichlorobenzene	ND	
Q1-S176-VMP1	2	Tetrachloroethene	3	7.4E-07

EXHIBIT 111  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
1,4-Dichlorobenzene	No
Tetrachloroethene	Yes

EXHIBIT 112  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data		
Chemical	1,4-Dichlorobenzene	Tetrachloroethene
Closest Monitoring Well	MW-47	MW-47
Distance	38.07	38.07
Concentration	2 U	5.2
Second Closest Monitoring Well	GP-2E	GP-2E
Distance	43.62	43.62
Concentration	2 U	10
Third Closest Monitoring Well	GP-11A	GP-11A
Distance	50.59	50.59
Concentration	1 U	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S194**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 3 VMP samples.
- Tetrachloroethene was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 113  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q2-S194-VMP, WEEK 15

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	1	4.1E-07
Naphthalene	11	1.5E-05
<b>Tetrachloroethene</b>	<b>59</b>	<b>1.4E-05</b>
<b>Cumulative Cancer Risk</b>		<b>2.9E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	2	0.00004
Acetone	5	0.00002
Toluene	3	0.00006
<b>Cumulative Hazard Index</b>		<b>0.00011</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m3)</b>
Ethanol	17
Isopropyl alcohol	1
n-Heptane	1
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	2

**EXHIBIT 114**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**INDOOR AIR SAMPLE: Q2-S194-INA, WEEK 21**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
1,2-Dichloroethane	0.2	1.7E-06
1,4-Dichlorobenzene	0.7	3.3E-06
Benzene	0.5	1.5E-06
Carbon tetrachloride	0.6	3.5E-06
Chloroform	0.5	4.4E-06
Chloromethane	1.2	8.9E-07
Ethylbenzene	0.4	4.0E-07
Methylene chloride	0.6	1.1E-07
Tetrachloroethene	0.4	9.9E-07
Trichloroethene	0.2	1.3E-07
<b>Cumulative Cancer Risk</b>		<b>1.7E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m3)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	0.2	0.00003
1,2,4-Trimethylbenzene	0.5	0.06735
2-Butanone (MEK)	4.2	0.00081
Acetone	10.6	0.00033
Chlorobenzene	0.2	0.00443
Cyclohexane	0.3	0.00004
Ethyl acetate	1.3	0.00039
Hexane	12.1	0.01661
Toluene	7.3	0.00142
trans-1,2-Dichloroethene	0.1	0.00128
Xylene	0.8	0.00752
<b>Cumulative Hazard Index</b>		<b>0.10022</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m3)</b>
Carbon disulfide	0.8
Ethanol	15.1
Isopropyl alcohol	4.6
n-Heptane	0.8
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.6
Dichlorodifluoromethane (Freon 12)	2.2
Trichlorofluoromethane (Freon 11)	1.2

EXHIBIT 115  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S194-INA/Q1-S194-VMP1

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	0.16	ND	
1,2,4-Trimethylbenzene	0.49	ND	
1,2-Dichloroethane	0.16	ND	
1,4-Dichlorobenzene	0.72	0.90	0.80
2-Butanone (MEK)	4.22	1.83	2.31
Acetone	10.62	4.82	2.20
Benzene	0.48	ND	
Carbon disulfide	0.78	ND	
Carbon tetrachloride	0.57	ND	
Chlorobenzene	0.23	ND	
Chloroform	0.49	ND	
Chloromethane	1.24	ND	
Cyclohexane	0.28	ND	
Ethanol	15.10	16.86	0.90
Ethyl acetate	1.30	ND	
Ethylbenzene	0.39	ND	
Hexane	12.13	ND	
Isopropyl alcohol	4.64	0.91	5.11
m,p-Xylene	0.82	ND	
Methylene chloride	0.59	ND	
Naphthalene	ND	10.52	
n-Heptane	0.78	ND	
<b>Tetrachloroethene</b>	<b>0.41</b>	<b>58.93</b>	<b>0.007</b>
Toluene	7.26	3.16	2.30
trans-1,2-Dichloroethene	0.08	ND	
Trichloroethene	0.16	ND	

EXHIBIT 116  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S194-INA/Q1-S194-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
25	8	7	19
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 117  
COMPARING TETRACHLOROETHENE CONCENTRATION AND  
RISKS-ALL VMP SAMPLES

Tetrachloroethene			
Sample No.	Week	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S194-VMP	32	30	7.4E-06
Q2-S194-VMP	15	59	1.4E-05
Q1-S194-VMP	3	28	6.8E-06

EXHIBIT 118  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Tetrachloroethene	Yes



EXHIBIT 119  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

<b>Summary Information and Data</b>	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-40
Distance	25.85
Concentration	1.4
Second Closest Monitoring Well	MW-39R
Distance	27.52
Concentration	1 U
Third Closest Monitoring Well	MW-25B
Distance	50.31
Concentration	26

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S199**

**Chemicals of Concern observed at this home:**

- Chloroform and tetrachloroethene

**Principal Findings/Conclusion:**

- Chloroform and tetrachloroethene were each detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 2 out of 3 VMP samples. Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Chloroform was detected in a higher concentration in the paired VMP sample compared with INA. Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Chloroform was not detected in nearby groundwater wells. Tetrachloroethene was detected in 3 out of 3 nearby groundwater wells.

**EXHIBIT 120**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q1-S199-VMP, WEEK 4**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
<b>Chloroform</b>	<b>22</b>	<b>2.0E-05</b>
<b>Tetrachloroethene</b>	<b>264</b>	<b>6.5E-05</b>
<b>Cumulative Cancer Risk</b>		<b>8.5E-05</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	2	0.00004
Acetone	19	0.00006
<b>Cumulative Hazard Index</b>		<b>0.00010</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	16
Propene	1
Dichlorodifluoromethane (Freon12)	2

EXHIBIT 121  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S199-INA, WEEK 4

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	8	3.8E-05
Benzene	2	5.1E-06
Chloroform	2	1.5E-05
Chloromethane	2	1.2E-06
Methylene chloride	4	7.3E-07
<b>Cumulative Cancer Risk</b>		<b>6.1E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	2	0.00032
Acetone	28	0.00087
Ethyl acetate	17	0.00519
Toluene	8	0.00165
Xylene	2	0.01505
<b>Cumulative Hazard Index</b>		<b>2.3E-02</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	266
Isopropyl alcohol	45
n-Heptane	5
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 122  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S199-INA/Q1-S199-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,4-Dichlorobenzene	8.36	ND	
2-Butanone (MEK)	1.68	2.03	0.83
Acetone	27.80	18.75	1.48
Benzene	1.60	ND	
<b>Chloroform</b>	<b>1.70</b>	<b>22.39</b>	<b>0.08</b>
Chloromethane	1.73	ND	
Ethanol	265.85	16.35	16.26
Ethyl acetate	17.04	ND	
Isopropyl alcohol	45.40	ND	
m,p-Xylene	1.65	ND	
Methylene chloride	3.78	ND	
n-Heptane	4.67	ND	
Propene	ND	0.81	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>264.47</b>	
Toluene	8.43	ND	

EXHIBIT 123  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S199-INA/Q1-S199-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
13	6	4	11
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 124**  
**COMPARING CONCENTRATION AND RISK FOR ALL VMP**  
**SAMPLES**

Sample No.	Week	Chemical	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S199-VMP	28	Chloroform	5	4.5E-06
Q3-S199-VMP	28	Tetrachloroethene	115	2.8E-05
Q2-S199-VMP	14	Chloroform	13	1.2E-05
Q2-S199-VMP	14	Tetrachloroethene	143	3.5E-05
Q1-S199-VMP	4	Chloroform	22	2.0E-05
Q1-S199-VMP	4	Tetrachloroethene	264	6.5E-05

**EXHIBIT 125**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No
Tetrachloroethene	Yes

**EXHIBIT 126**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

Summary Information and Data		
Chemical	Chloroform	Tetrachloroethene
Closest Monitoring Well	MW-27A	MW-27A
Distance	23.55	23.55
Concentration	1 U	5.9
Second Closest Monitoring Well	MW-27B	MW-27B
Distance	24	24
Concentration	1 U	43
Third Closest Monitoring Well	MW-44B	MW-44B
Distance	36.28	36.28
Concentration	1 U	14

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S229**

**Chemical of Concern observed at this home:**

- 1,4-Dichlorobenzene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene was detected in multiple VMP samples.
- 1,4-Dichlorobenzene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 3 VMP samples.
- 1,4-Dichlorobenzene was not detected in the paired VMP/INA sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells.

EXHIBIT 127  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q3-S229-VMP, WEEK 29

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
<b>1,4-Dichlorobenzene</b>	<b>74.0</b>	<b>3.4E-05</b>
Benzene	0.2	6.2E-08
Carbon tetrachloride	0.5	3.1E-07
Chloroform	0.2	2.2E-07
Tetrachloroethene	6.0	1.5E-06
Trichloroethene	0.3	2.2E-08
<b>Cumulative Cancer Risk</b>		<b>3.6E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,1,1-Trichloroethane	0.3	0.00001
1,2,4-Trimethylbenzene	0.5	0.00741
2-Butanone (MEK)	1.2	0.00002
Acetone	6.7	0.00002
Chlorobenzene	6.7	0.01293
Ethyl acetate	5.1	0.00015
Toluene	1.1	0.00002
<b>Cumulative Hazard Index</b>		<b>0.02056</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
4-Isopropyltoluene	0.1
Ethanol	4.7
Isopropyl alcohol	2.0
1,1,2-Trichlorotrifluoroethane (Freon 113)	1.1
Dichlorodifluoromethane (Freon12)	29.0
Trichlorofluoromethane (Freon 11)	4.4

EXHIBIT 128  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S229-INA, WEEK 4

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	4.7E-06
Chloromethane	2	1.2E-06
Methylene chloride	1	2.6E-07
<b>Cumulative Cancer Risk</b>		<b>6.2E-06</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	1	0.00028
Acetone	40	0.00126
Ethyl acetate	8	0.00230
Hexane	2	0.00338
Toluene	4	0.00075
Xylene	2	0.01465
<b>Cumulative Hazard Index</b>		<b>0.02262</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	411
Isopropyl alcohol	71
Dichlorodifluoromethane (Freon12)	14
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 129  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S-S229-INA/Q1-S229-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/Sub-Slab
1,1,1-Trichloroethane	0.76	ND	
2-Butanone (MEK)	1.44	5.04	0.29
2-Hexanone (MBK)	1.35	ND	
Acetone	40.40	36.36	1.11
Benzene	1.47	2.87	0.51
Chloromethane	1.63	0.60	2.72
Cyclohexane	0.83	ND	
Ethanol	411.03	30.92	13.29
Ethyl acetate	7.57	1.12	6.77
Ethylbenzene	0.56	ND	
Hexane	2.47	1.27	1.94
Isopropyl alcohol	71.17	9.62	7.40
m,p-Xylene	1.60	1.60	1.00
Methylene chloride	1.35	1.81	0.75
n-Heptane	ND	1.60	
o-Xylene	ND	0.52	
Tetrachloroethene	ND	8.88	
Tetrahydrofuran	ND	0.65	
Toluene	3.84	3.65	1.05
Trichloroethene	ND	0.59	

EXHIBIT 130  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S-S229-INA/Q1-S229-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
15	16	11	9
Conclusion: No Evidence of Cross-Slab Transport			



**EXHIBIT 131  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>1,4-Dichlorobenzene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S229-VMP</b>	<b>29</b>	<b>74</b>	<b>3.E-05</b>
Q2-S229-VMP	14	1	4.E-07
Q2-S229-VMP	4	ND	

**EXHIBIT 132  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
1,4 Dichlorobenzene	No

**EXHIBIT 133  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	1,4-Dichlorobenzene
<b>Closest Monitoring Well</b>	
Distance	MW-28A
Concentration	102.5
	1 U
<b>Second Closest Monitoring Well</b>	
Distance	MW-28B
Concentration	102.78
	1 U
<b>Third Closest Monitoring Well</b>	
Distance	MW-33A
Concentration	114.17
	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S237**

**Chemical of Concern observed at this home:**

- 1,4-Dichlorobenzene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene was detected in multiple VMP samples.
- 1,4-Dichlorobenzene was not detected above an acceptable risk level of 1.0E-05 in any of the 6 VMP samples.
- 1,4-Dichlorobenzene was detected in a higher concentration in the INA sample than in the paired VMP sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells.

EXHIBIT 134  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
SUB-SLAB VAPOR SAMPLE: Q3-S237-VMP1, WEEK 29

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>1,4-Dichlorobenzene</b>	<b>14.7</b>	<b>6.7E-06</b>
Benzene	2.1	6.8E-07
Carbon tetrachloride	0.4	2.8E-07
Chloroform	2.2	2.0E-06
Chloromethane	0.6	4.6E-08
Ethylbenzene	0.6	5.8E-08
Methylene chloride	0.5	9.3E-09
Tetrachloroethene	3.5	8.4E-07
Tetrahydrofuran	0.6	6.1E-08
<b>Cumulative Cancer Risk</b>		<b>1.1E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,2,4-Trimethylbenzene	0.7	0.00943
2-Butanone (MEK)	3.9	0.00007
Acetone	13.9	0.00004
Cyclohexane	2.3	0.00004
Ethyl acetate	1.2	0.00004
Hexane	5.2	0.00071
Toluene	4.4	0.00009
Xylenes	2.2	0.00202
<b>Cumulative Hazard Index</b>		<b>0.01243</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	0.9
4-Isopropyltoluene	0.3
Carbon disulfide	0.2
Ethanol	24.8
Isopropyl alcohol	2.6
n-Heptane	3.0
Propene	33.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.7
Bromodichloromethane	0.6
Dichlorodifluoromethane (Freon12)	0.8
Trichlorofluoromethane (Freon 11)	2.2

EXHIBIT 135  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S237-INA, WEEK 7

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	2	7.7E-06
Benzene	1	4.6E-06
Chloroform	6	5.6E-05
Chloromethane	1	9.4E-07
Ethylbenzene	1	8.9E-07
Tetrachloroethene	2	4.5E-06
<b>Cumulative Cancer Risk</b>		<b>7.5E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	2	0.00044
1,2,4-Trimethylbenzene	1	0.19530
Acetone	23	0.00073
Ethyl acetate	11	0.00324
Hexane	2	0.00208
Toluene	7	0.00145
Xylenes	3	0.02494
<b>Cumulative Hazard Index</b>		<b>0.22817</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	343
Isopropyl alcohol	32
n-Heptane	1
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 136  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S-S237-INA/Q1-S237-VMP1

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	2.29	ND	
1,2,4-Trimethylbenzene	1.43	0.54	2.64
<b>1,4-Dichlorobenzene</b>	<b>1.68</b>	<b>1.20</b>	<b>1.40</b>
2-Butanone (MEK)	ND	3.39	
2-Hexanone (MBK)	ND	0.86	
Acetone	23.29	17.09	1.36
Benzene	1.44	1.21	1.18
Carbon disulfide	ND	0.31	
Chloroform	6.18	0.92	6.68
Chloromethane	1.32	ND	
Ethanol	343.16	8.05	42.62
Ethyl acetate	10.63	0.90	11.80
Ethylbenzene	0.87	ND	
Hexane	1.52	0.39	3.91
Isopropyl alcohol	31.90	2.99	10.66
m,p-Xylene	1.86	0.95	1.95
n-Heptane	0.94	0.78	1.21
o-Xylene	0.87	ND	
Tetrachloroethene	1.83	5.02	0.36
Toluene	7.41	ND	

EXHIBIT 137  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S-S237-INA/Q1-S237-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
17	15	12	8
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 138**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>1,4-Dichlorobenzene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S237-VMP2	29	2	1.1E-06
Q3-S237-VMP1	29	15	6.7E-06
Q2-S237-VMP2	21	ND	
Q2-S237-VMP1	21	9	4.3E-06
Q1-S237-VMP2	7	1	4.6E-07
Q1-S237-VMP1	7	1	5.5E-07

**EXHIBIT 139**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
1,4 Dichlorobenzene	No

**EXHIBIT 140**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	1,4-Dichlorobenzene
Closest Monitoring Well	GP-11A
Distance	32.45
Concentration	1 U
Second Closest Monitoring Well	MW-23
Distance	35
Concentration	1 U
Third Closest Monitoring Well	GP-9A
Distance	40.49
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S239**

**Chemicals of Concern observed at this home:**

- Methylene chloride and tetrachloroethene

**Principal Findings/Conclusion:**

- Methylene chloride was detected in 1 VMP sample. Tetrachloroethene was detected in multiple VMP samples.
- Methylene chloride was detected above an acceptable risk level of 1.0E-05 in 1 VMP sample. Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Methylene chloride was detected in the INA sample, but not in the paired VMP sample. Tetrachloroethene was detected in a higher concentration in the paired VMP samples compared with INA.
- Methylene chloride was not detected in nearby groundwater wells. Tetrachloroethene was detected in 1 out of 3 nearby groundwater wells.

EXHIBIT 141  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
SUB-SLAB VAPOR SAMPLE: Q2-S239-VMP, WEEK 22

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	2.0	9.0E-07
Chloroform	0.8	7.5E-07
Chloromethane	0.2	1.6E-08
<b>Methylene chloride</b>	<b>1,229.2</b>	<b>2.4E-05</b>
<b>Tetrachloroethene</b>	<b>89.5</b>	<b>2.2E-05</b>
Tetrahydrofuran	1.2	1.3E-07
Trichloroethene	0.5	4.5E-08
<b>Cumulative Cancer Risk</b>		<b>4.7E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	4.7	0.00009
Acetone	33.0	0.00010
Chlorobenzene	8.7	0.01674
Ethyl acetate	1.3	0.00004
Toluene	2.9	0.00006
Xylenes	1.8	0.00166
<b>Cumulative Hazard Index</b>		<b>0.01869</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	0.4
Ethanol	6.8
Isopropyl alcohol	2.1
n-Heptane	0.4
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Dichlorodifluoromethane (Freon12)	2.3
Trichlorofluoromethane (Freon 11)	3.6

EXHIBIT 142  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S239-INA, WEEK 5

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	1	3.0E-06
Benzene	2	7.4E-06
Chloroform	1	8.0E-06
Chloromethane	1	1.0E-06
Ethylbenzene	1	1.0E-06
Methylene chloride	1	1.2E-07
Tetrachloroethene	1	3.1E-06
Trichloroethene	7	6.0E-06
<b>Cumulative Cancer Risk</b>		<b>3.0E-05</b>



<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	1	0.15489
Acetone	23	0.00070
Cyclohexane	1	0.00010
Ethanol	111	0.03375
Hexane	5	0.00695
Styrene	1	0.00110
Toluene	6	0.00121
Xylenes	4	0.03524
<b>Cumulative Hazard Index</b>		<b>0.23395</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Isopropyl alcohol	16
n-Heptane	2
1,1,2-Trichlorotrifluoroethane (Freon 113)	1
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 143  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S239-INA/Q1-S239-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	1.13	ND	
1,4-Dichlorobenzene	0.66	1.44	0.46
2-Butanone (MEK)	ND	1.53	
2-Hexanone (MBK)	ND	0.53	
Acetone	22.53	15.59	1.45
Benzene	2.30	0.77	3.00
Chloroform	0.88	0.83	1.06
Chloromethane	1.40	ND	
Cyclohexane	0.62	ND	
Ethanol	110.87	4.15	26.73
Ethylbenzene	1.00	ND	
Hexane	5.08	ND	
Isopropyl alcohol	15.78	2.55	6.18
m,p-Xylene	2.90	0.48	6.09
<b>Methylene chloride</b>	<b>0.63</b>	<b>ND</b>	
n-Heptane	1.93	ND	
o-Xylene	0.95	ND	
Styrene	1.15	ND	
<b>Tetrachloroethene</b>	<b>1.29</b>	<b>66.66</b>	<b>0.02</b>
Toluene	6.17	0.56	10.93
Trichloroethene	7.26	0.59	12.27

EXHIBIT 144  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S239-INA/Q1-S239-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
19	12	10	11
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 145  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Methylene chloride and Tetrachloroethene				
Sample No.	Week	Chemical	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S239-VMP	30	Methylene chloride	ND	
<b>Q3-S239-VMP</b>	<b>30</b>	<b>Tetrachloroethene</b>	<b>88</b>	<b>2.2E-05</b>
<b>Q2-S239-VMP</b>	<b>22</b>	<b>Methylene chloride</b>	<b>1229</b>	<b>2.4E-05</b>
<b>Q2-S239-VMP</b>	<b>22</b>	<b>Tetrachloroethene</b>	<b>90</b>	<b>2.2E-05</b>
Q1-S239-VMP	5	Methylene chloride	ND	
<b>Q1-S239-VMP</b>	<b>5</b>	<b>Tetrachloroethene</b>	<b>67</b>	<b>1.6E-05</b>

EXHIBIT 146  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Methylene chloride	No
Tetrachloroethene	Yes

EXHIBIT 147  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data		
Chemical	Methylene chloride	Tetrachloroethene
Closest Monitoring Well	MW-41B	MW-41B
Distance	13.69	13.69
Concentration	5 U	1 U
Second Closest Monitoring Well	MW-41A	MW-41A
Distance	13.99	13.99
Concentration	5 U	1 U
Third Closest Monitoring Well	MW-27B	MW-27B
Distance	93.91	93.91
Concentration	5 U	43

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S240**

**Chemical of Concern observed at this home:**

- Naphthalene

**Principal Findings/Conclusion:**

- Naphthalene was detected in 1 VMP samples.
- Naphthalene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 6 VMP samples.
- Naphthalene was not detected the paired INA/VMP samples.
- Naphthalene was not detected in nearby groundwater wells.

EXHIBIT 148  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q1-S240-VMP2, WEEK 5

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1.2	3.8E-07
Chloromethane	0.6	4.0E-08
<b>Naphthalene</b>	<b>72.2</b>	<b>1.0E-04</b>
Tetrachloroethene	0.7	1.7E-07
Trichloroethene	1.0	8.5E-08
<b>Cumulative Cancer Risk</b>		<b>1.0E-04</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,1,1-Trichloroethane	2.1	0.00004
2-Butanone (MEK)	3.2	0.00006
Acetone	19.5	0.00006
Hexane	0.4	0.00006
Toluene	1.7	0.00003
Xylene	0.4	0.00040
1,1,1-Trichloroethane	2.1	0.00004
<b>Cumulative Hazard Index</b>		<b>0.00065</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
2-Hexanone (MBK)	1.6
Ethanol	4.2
Isopropyl alcohol	3.0
n-Heptane	0.7
Dichlorodifluoromethane (Freon12)	1.4
Trichlorofluoromethane (Freon 11)	1.3

EXHIBIT 149  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S240-INA, WEEK 4

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	7	3.2E-05
Benzene	2	5.2E-06
Chloromethane	2	1.3E-06
<b>Cumulative Cancer Risk</b>		<b>3.9E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	2	0.0004
Acetone	17	0.0005
Ethyl acetate	6	0.0018
Hexane	3	0.0042
Toluene	8	0.0015
<b>Cumulative Hazard Index</b>		<b>0.0084</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Ethanol	283
Isopropyl alcohol	10
n-Heptane	2
Dichlorodifluoromethane (Freon12)	2

EXHIBIT 150  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S240-INA/Q1-S240-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	ND	234.06	
1,4-Dichlorobenzene	7.09	ND	
2-Butanone (MEK)	2.09	4.72	0.44
Acetone	17.11	17.54	0.98
Benzene	1.63	ND	
Chloromethane	1.76	ND	
Ethanol	282.82	5.56	50.85
Ethyl acetate	5.87	1.23	4.79
Hexane	3.07	ND	
Isopropyl alcohol	9.67	2.65	3.65
n-Heptane	2.21	ND	
Toluene	7.75	2.63	2.94

EXHIBIT 151  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S240-INA/Q1-S240-VMP1

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
11	7	6	6
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 152  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Naphthalene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S240-VMP2	30	ND	
Q3-S240-VMP1	30	ND	
Q2-S240-VMP2	19	ND	
Q2-S240-VMP1	19	ND	
<b>Q1-S240-VMP2</b>	<b>5</b>	<b>72.2</b>	<b>1.0E-04</b>
Q1-S240-VMP1	4	ND	

**EXHIBIT 153  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Naphthalene	Yes

**EXHIBIT 154  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Naphthalene</b>
<b>Closest Monitoring Well</b>	<b>MW-25A</b>
Distance	25.18
Concentration	1 U
<b>Second Closest Monitoring Well</b>	<b>GP-2F</b>
Distance	25.47
Concentration	1 U
<b>Third Closest Monitoring Well</b>	<b>MW-25B</b>
Distance	27.1
Concentration	2 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S250**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 1 out of the 4 VMP samples.
- No INA sample was taken.
- Chloroform was not detected in nearby groundwater wells.

EXHIBIT 155  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 SUB-SLAB VAPOR SAMPLE: Q2-S250-VMP2, WEEK 23

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	1	5.2E-07
<b>Chloroform</b>	<b>15</b>	<b>1.4E-05</b>
Tetrachloroethene	17	4.2E-06
Trichloroethene	3	2.5E-07
<b>Cumulative Cancer Risk</b>		<b>1.9E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	4	0.00007
Acetone	9	0.00003
Ethyl acetate	2	0.00005
Toluene	2	0.00004
<b>Cumulative Hazard Index</b>		<b>0.00018</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	6
Isopropyl alcohol	2
Bromodichloromethane	1
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 156  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE

**No Indoor Air Sample Collected**

EXHIBIT 157  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Chloroform			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S250-VMP2	31	10	9.4E-06
Q3-S250-VMP1	31	4	4.3E-06
<b>Q2-S250-VMP2</b>	<b>23</b>	<b>15</b>	<b>1.4E-05</b>
Q2-S250-VMP1	23	10	9.9E-06

EXHIBIT 158  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No

EXHIBIT 159  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Chloroform
Closest Monitoring Well	MW-51
Distance	57.82
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	58.44
Concentration	1 U
Third Closest Monitoring Well	MW-41A
Distance	58.82
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S257**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

**EXHIBIT 160**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INA/VMP PAIRED SAMPLE:**  
**SUB-SLAB VAPOR SAMPLE: Q3-S257-VMP, WEEK 35**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	0.5	2.5E-07
Methylene chloride	1.4	2.6E-08
<b>Tetrachloroethene</b>	<b>541.8</b>	<b>1.3E-04</b>
<b>Cumulative Cancer Risk</b>		<b>1.3E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	1.0	0.00002
Acetone	1.4	0.00000
Ethyl acetate	6.6	0.00020
Hexane	0.5	0.00007
<b>Cumulative Hazard Index</b>		<b>0.00032</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m<sup>3</sup>)</b>
n-Heptane	0.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.7
Dichlorodifluoromethane (Freon12)	2.3
Trichlorofluoromethane (Freon 11)	1.7

EXHIBIT 161  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S257-INA, WEEK 10

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Benzene	1	3.9E-06
Chloromethane	1	9.1E-07
Methylene chloride	1	1.5E-07
<b>Cumulative Cancer Risk</b>		<b>5.0E-06</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	1	0.00021
Acetone	13	0.00040
Ethyl acetate	1	0.00016
Hexane	1	0.00140
Toluene	2	0.00035
Xylene	1	0.00990
<b>Cumulative Hazard Index</b>		<b>0.01243</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	20
Isopropyl alcohol	8
n-Heptane	1
1,1,2-Trichlorotrifluoroethane (Freon 113)	1
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 162  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S257-INA/Q1-S257-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	ND	7.08	
1,3,5-Trimethylbenzene	ND	4.28	
2-Butanone (MEK)	1.09	1.92	0.57
4-Ethyltoluene	ND	5.41	
Acetone	12.83	17.16	0.75
Benzene	1.21	1.12	1.09
Chloromethane	1.28	0.66	1.94
Ethanol	19.61	15.72	1.25
Ethyl acetate	0.54	ND	
Ethylbenzene	ND	25.36	
Hexane	1.02	ND	
Isopropyl alcohol	7.71	3.80	2.03
m,p-Xylene	1.08	197.69	0.01
Methylene chloride	0.76	1.18	0.65
n-Heptane	0.57	2.46	0.23
o-Xylene	ND	62.86	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>316.00</b>	
Tetrahydrofuran	ND	0.91	
Toluene	1.81	14.71	0.12

EXHIBIT 163  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S257-INA/Q1-S257-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
12	17	10	9
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 164**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S257-VMP</b>	<b>35</b>	<b>542</b>	<b>1.3E-04</b>
<b>Q2-S257-VMP</b>	<b>24</b>	<b>467</b>	<b>1.1E-04</b>
<b>Q1-S257-VMP</b>	<b>10</b>	<b>316</b>	<b>7.7E-05</b>

**EXHIBIT 165**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 166**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	MW-40
Distance	13.82
Concentration	1.4
Second Closest Monitoring Well	MW-25B
Distance	38.54
Concentration	26
Third Closest Monitoring Well	MW-25A
Distance	41.44
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S258**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in all of the 6 VMP samples.
- Tetrachloroethene was detected in the paired VMP sample, but not in the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 167  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 VAPOR SAMPLE: Q1-S258-VMP, WEEK 3

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Tetrachloroethene	814	2.0E-04
Cumulative Cancer Risk		2.0E-04
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	2	0.00004
Acetone	27	0.00008
Cumulative Hazard Index		0.00012

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Carbon disulfide	1
Ethanol	8
Isopropyl alcohol	3
Propene	1
Dichlorodifluoromethane (Freon12)	2



EXHIBIT 168  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q2-S258-INA, WEEK 19

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Chloroform	2	1.4E-05
Chloromethane	1	7.8E-07
<b>Cumulative Cancer Risk</b>		<b>1.5E-05</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
Acetone	14	0.00044
Toluene	2	0.00046
<b>Cumulative Hazard Index</b>		<b>0.00090</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	140
Isopropyl alcohol	42
Dichlorodifluoromethane (Freon12)	3

EXHIBIT 169  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S258-INA/S258-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	0.82	ND	
2-Butanone (MEK)	ND	5.10	
2-Hexanone (MBK)	ND	0.41	
Acetone	14.00	17.32	0.81
Chloroform	1.56	0.58	2.67
Chloromethane	1.09	0.21	5.30
Ethanol	140.43	4.20	33.40
Isopropyl alcohol	41.94	2.09	20.11
<b>Tetrachloroethene</b>	<b>ND</b>	<b>586.03</b>	
Toluene	2.37	0.53	4.50

EXHIBIT 170  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S258-INA/S258-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
7	9	6	4
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 171  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S258-VMP	33	678	1.7E-04
Q3-S258-PVMP	33	566	1.4E-04
Q2-S258-VMP	19	586	1.4E-04
Q2-S258-PVMP	19	614	1.5E-04
Q1-S258-VMP	3	814	2.0E-04
Q1-S258-PVMP	3	671	1.6E-04

**EXHIBIT 172  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 173  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	MW-40
Distance	15.74
Concentration	1.4
Second Closest Monitoring Well	MW-25B
Distance	36.67
Concentration	26
Third Closest Monitoring Well	MW-25A
Distance	38.75
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S270**

**Chemicals of Concern observed at this home:**

- 1,4-Dichlorobenzene, chloroform, and tetrachloroethene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene was detected in 1 VMP sample, chloroform was detected in 3 VMP samples, and tetrachloroethene was detected in 2 VMP samples.
- Neither 1,4-dichlorobenzene, chloroform, nor tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in any of the VMP samples.
- 1,4-Dichlorobenzene was detected in the INA sample, but not in the paired VMP sample. Chloroform was not detected in the INA sample, but was detected in the paired VMP sample. Tetrachloroethene was not detected in the INA sample, but was detected in the paired VMP sample.
- Neither 1,4-dichlorobenzene nor chloroform was detected in nearby groundwater wells. Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 174  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q2-S270-VMP, WEEK 17

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
<b>1,4-Dichlorobenzene</b>	<b>3.2</b>	<b>1.4E-06</b>
Benzene	2.3	7.4E-07
Carbon tetrachloride	1.4	8.6E-07
<b>Chloroform</b>	<b>7.0</b>	<b>6.3E-06</b>
Ethylbenzene	1.1	1.1E-07
Methylene chloride	1.6	3.0E-08
<b>Tetrachloroethene</b>	<b>5.2</b>	<b>1.3E-06</b>
Tetrahydrofuran	4.7	5.2E-07
Trichloroethene	1.1	9.4E-08
<b>Cumulative Cancer Risk</b>		<b>1.1E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	0.5	0.00001
1,2,4-Trimethylbenzene	1.4	0.01953
1,3,5-Trimethylbenzene	0.5	0.00780
2-Butanone (MEK)	22.0	0.00042
Acetone	92.4	0.00029
Cyclohexane	0.8	0.00001
Hexane	3.1	0.00042
Styrene	0.8	0.00007
Toluene	8.2	0.00016
Xylenes	4.1	0.00376
<b>Cumulative Hazard Index</b>		<b>0.03248</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	9.8
4-Methyl-2-pentanone (MIBK)	1.9
Benzyl chloride	1.4
Carbon disulfide	1.4
Ethanol	17.6
Isopropyl alcohol	11.1
n-Heptane	1.8
1,1,2-Trichlorotrifluoroethane (Freon 113)	2.8
Dichlorodifluoromethane (Freon12)	9.0
Trichlorofluoromethane (Freon 11)	7.8

EXHIBIT 175  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S270-INA, WEEK 8

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	5	2.4E-06
Benzene	1	4.8E-07
Chloromethane	1	1.0E-07
Ethylbenzene	1	1.4E-07
Methylene chloride	1	2.1E-08
Tetrahydrofuran	1	7.7E-08
<b>Cumulative Cancer Risk</b>		<b>3.2E-06</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,2,4-Trimethylbenzene	2	0.02828
2-Butanone (MEK)	4	0.00007
Acetone	31	0.00010
Ethyl acetate	4	0.00011
Hexane	3	0.00047
Toluene	8	0.00016
Xylenes	6	0.00527
<b>Cumulative Hazard Index</b>		<b>0.03447</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Dichlorodifluoromethane (Freon12)	3
Ethanol	377
Isopropyl alcohol	67
n-Heptane	2
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 176  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S270-INA/S270-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/Sub-Slab
1,2,4-Trimethylbenzene	2.06	ND	
<b>1,4-Dichlorobenzene</b>	<b>5.17</b>	<b>ND</b>	
2-Butanone (MEK)	3.80	2.95	1.29
2-Hexanone (MBK)	ND	0.78	
Acetone	30.65	23.12	1.33
Benzene	1.50	1.53	0.98
Carbon disulfide	ND	0.34	
<b>Chloroform</b>	<b>ND</b>	<b>1.02</b>	
Chloromethane	1.43	ND	
Ethanol	377.10	8.92	42.28
Ethyl acetate	3.75	ND	
Ethylbenzene	1.34	ND	
Hexane	3.46	ND	
Isopropyl alcohol	67.24	3.88	17.34
m,p-Xylene	4.51	0.43	10.40
Methylene chloride	1.11	ND	
n-Heptane	1.56	0.70	2.24
o-Xylene	1.26	ND	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>1.15</b>	
Tetrahydrofuran	0.71	ND	
Toluene	8.13	0.87	9.39
Trichloroethene	ND	3.06	

EXHIBIT 177  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S270-INA/S270-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
17	13	8	14
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 178**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>1,4-Dichlorobenzene, Chloroform, and Tetrachloroethene</b>				
<b>Sample No.</b>	<b>Week</b>	<b>Chemical</b>	<b>Concentration (µm/m3)</b>	<b>Cancer Risk</b>
Q3-S270-VMP	35	1,4-Dichlorobenzene	ND	
Q3-S270-VMP	35	Chloroform	2.73	2.5E-06
Q3-S270-VMP	35	Tetrachloroethene	ND	
Q2-S270-VMP	17	1,4-Dichlorobenzene	3.19	1.4E-06
Q2-S270-VMP	17	Chloroform	6.96	6.3E-06
Q2-S270-VMP	17	Tetrachloroethene	5.22	1.3E-06
Q2-S270-VMP	8	1,4-Dichlorobenzene	ND	
Q1-S270-VMP	8	Chloroform	1.02	9.3E-07
Q1-S270-VMP	8	Tetrachloroethene	1.15	2.6E-07

**EXHIBIT 179**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
1,4-Dichlorobenzene	No
Chloroform	No
Tetrachloroethene	Yes



**EXHIBIT 180  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS**

<b>Summary Information and Data</b>			
Chemical	Chloroform	Tetrachloroethene	1,4-Dichlorobenzene
Closest Monitoring Well	GP-2F	GP-2F	MW-38
Distance	16.4	16.4	22.4
Concentration	1 U	16	1 U
Second Closest Monitoring Well	MW-25A	MW-25A	MW-39R
Distance	37.7	37.7	40.3
Concentration	1 U	1 U	1 U
Third Closest Monitoring Well	MW-49	MW-49	GP-11A
Distance	42.5	42.5	41.8
Concentration	2 U	14	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S276**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 2 out of the 4 VMP samples.
- Chloroform was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Chloroform was not detected in nearby groundwater wells.

**EXHIBIT 181**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**SUB-SLAB VAPOR SAMPLE: Q1-S276-VMP, WEEK 9**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
Benzene	0.4	1.1E-07
Carbon tetrachloride	0.6	3.9E-07
<b>Chloroform</b>	<b>141.1</b>	<b>1.3E-04</b>
Tetrachloroethene	2.5	6.1E-07
<b>Cumulative Cancer Risk</b>		<b>1.3E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	4.7	0.00009
Acetone	27.3	0.00009
Ethyl acetate	0.4	0.00001
Propene	0.4	0.00004
Toluene	3.1	0.00006
Xylene	0.6	0.00051
<b>Cumulative Hazard Index</b>		<b>0.00080</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	0.9
Carbon disulfide	0.6
Ethanol	14.0
Isopropyl alcohol	1.9
n-Heptane	1.0
1,1,2-Trichlorotrifluoroethane (Freon 113)	2.0
Bromodichloromethane	1.9
Dichlorodifluoromethane (Freon12)	1.8
Trichlorofluoromethane (Freon 11)	2.2

EXHIBIT 182  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S276-INA, WEEK 9

Carcinogenic Chemicals		
Carcinogens	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
Benzene	1	3.3E-06
Chloroform	2	1.5E-05
Chloromethane	1	8.9E-07
Naphthalene	11	1.6E-04
<b>Cumulative Cancer Risk</b>		<b>1.8E-04</b>
Noncarcinogenic Chemicals		
Noncarcinogens	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	1	0.00028
Acetone	14	0.00044
Ethyl acetate	3	0.00084
Hexane	3	0.00415
Toluene	6	0.00110
Xylene	2	0.02217
<b>Cumulative Hazard Index</b>		<b>0.02899</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Ethanol	175
Isopropyl alcohol	22
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 183  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S276-IND/Q1-S276-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
2-Butanone (MEK)	1.44	4.75	0.30
2-Hexanone (MBK)	ND	0.90	
Acetone	14.14	27.33	0.52
Benzene	1.02	0.35	2.91
Bromodichloromethane	ND	1.88	
Carbon disulfide	ND	0.56	
Carbon tetrachloride	ND	0.63	
<b>Chloroform</b>	<b>1.70</b>	<b>141.15</b>	<b>0.01</b>
Chloromethane	1.24	ND	
Ethanol	175.35	14.03	12.50
Ethyl acetate	2.77	0.36	7.70
Hexane	3.03	ND	
Isopropyl alcohol	21.91	1.91	11.45
m,p-Xylene	2.43	0.56	4.31
Naphthalene	11.31	ND	
n-Heptane	ND	0.98	
Propene	ND	0.43	
Tetrachloroethene	ND	2.51	
Toluene	5.61	3.12	1.80

EXHIBIT 184  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S276-IND/Q1-S276-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
12	16	9	10
Conclusion		No Evidence of Cross-Slab Transport	

EXHIBIT 185  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Chloroform			
Sample No.	Week	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S276-VMP	27	2.6	2.3E-06
<b>Q2-S276-VMP</b>	<b>16</b>	<b>14.8</b>	<b>1.3E-05</b>
<b>Q1-S276-VMP</b>	<b>9</b>	<b>141.1</b>	<b>1.3E-04</b>
Q3-S276-VMP	27	2.6	2.3E-06

EXHIBIT 186  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No

EXHIBIT 187  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Chloroform
Closest Monitoring Well	MW-51
Distance	141.75
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	212.37
Concentration	1 U
Third Closest Monitoring Well	MW-41A
Distance	213.08
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S287**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 1 out of the 2 VMP samples.
- Chloroform was not detected in the INA sample, but was detected in the paired VMP sample.
- Chloroform was detected in 1 out of 3 nearby groundwater wells.

**EXHIBIT 188**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**SUB-SLAB VAPOR SAMPLE: Q2-S287-VMP, WEEK 19**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Chloroform</b>	<b>128</b>	<b>1.2E-04</b>
Tetrachloroethene	3	6.1E-07
<b>Cumulative Cancer Risk</b>		<b>1.2E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	4	0.00008
Acetone	8	0.00002
Toluene	1	0.00002
<b>Cumulative Hazard Index</b>		<b>0.00013</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Ethanol	3
Isopropyl alcohol	3
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 189  
SAMPLING RESULTS AND CUMULATIVE RISK:  
INA/VMP PAIRED SAMPLE:  
INDOOR AIR SAMPLE: Q1-S287-INA, WEEK 9

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,3-Butadiene	1	1.4E-05
Benzene	2	5.1E-06
Chloromethane	2	1.1E-06
Ethylbenzene	2	1.7E-06
Methylene chloride	3	5.7E-07
Tetrahydrofuran	1	1.4E-06
<b>Cumulative Cancer Risk</b>		<b>2.4E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	3	0.41754
2-Butanone (MEK)	7	0.00134
Acetone	46	0.00145
Cyclohexane	2	0.00028
Ethyl acetate	1	0.00031
Hexane	1	0.00135
Styrene	3	0.00330
Toluene	5	0.00091
Xylenes	5	0.04870
<b>Cumulative Hazard Index</b>		<b>0.47518</b>



Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
4-Ethyltoluene	1
Ethanol	112
Isopropyl alcohol	40
n-Heptane	18
Dichlorodifluoromethane (Freon12)	4
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 190  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S287-INA/S287-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	3.05	0.64	4.77
1,3-Butadiene	1.13	ND	
1,4-Dichlorobenzene	ND	0.90	
2-Butanone (MEK)	6.96	1.86	3.75
2-Hexanone (MBK)	ND	0.94	
Acetone	46.34	11.93	3.88
Benzene	1.60	0.61	2.63
<b>Chloroform</b>	<b>ND</b>	<b>2.09</b>	
Chloromethane	1.51	ND	
Cyclohexane	1.76	0.59	3.00
Ethanol	111.81	11.77	9.50
Ethyl acetate	1.01	1.01	1.00
Ethylbenzene	1.69	ND	
Hexane	0.99	ND	
Isopropyl alcohol	39.75	8.02	4.95
m,p-Xylene	3.82	0.87	4.40
Methylene chloride	2.95	ND	
n-Heptane	18.48	ND	
o-Xylene	1.52	ND	
Styrene	3.45	ND	
Tetrachloroethene	ND	1.36	
Tetrahydrofuran	1.33	ND	
Toluene	4.67	1.43	3.26

EXHIBIT 191  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S287-INA/S287-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
19	14	10	13
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 192  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Chloroform			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q2-S287-VMP	19	128	1.2E-04
Q1-S287-VMP	9	2	1.9E-06

EXHIBIT 193  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	No

EXHIBIT 194  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Chloroform
Closest Monitoring Well	MW-42
Distance	33.64
Concentration	1.1
Second Closest Monitoring Well	MW-30
Distance	69.36
Concentration	1 U
Third Closest Monitoring Well	MW-24B
Distance	72.19
Concentration	20 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S296**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 1 out of the 3 VMP samples.
- Chloroform was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Chloroform was detected in 1 out of 3 nearby groundwater wells.

EXHIBIT 195  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q1-S296-VMP, WEEK 9

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
Benzene	0.8	2.6E-07
<b>Chloroform</b>	<b>19.6</b>	<b>1.8E-05</b>
Methylene chloride	11.0	2.1E-07
Tetrachloroethene	4.2	1.0E-06
<b>Cumulative Cancer Risk</b>		<b>1.9E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	4.3	0.00008
Acetone	15.7	0.00005
Cyclohexane	0.4	0.00001
Ethyl acetate	0.6	0.00002
Hexane	0.4	0.00005
Toluene	3.6	0.00007
<b>Cumulative Hazard Index</b>		<b>0.00028</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	0.9
Ethanol	11.1
Isopropyl alcohol	2.1
n-Heptane	3.2
1,1,2-Trichlorotrifluoroethane (Freon 113)	2.0
Dichlorodifluoromethane (Freon12)	1.9
Trichlorofluoromethane (Freon 11)	1.8

**EXHIBIT 196**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INDOOR AIR SAMPLE: Q1-S296-INA, WEEK 9**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	4.0E-06
Chloroform	2	2.0E-05
Chloromethane	1	1.0E-06
<b>Cumulative Cancer Risk</b>		<b>2.5E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	3	0.00054
Acetone	27	0.00085
Cyclohexane	4	0.00060
Ethyl acetate	3	0.00080
Hexane	5	0.00662
Toluene	7	0.00129
Xylene	1	0.01267
<b>Cumulative Hazard Index</b>		<b>0.02337</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	420
Isopropyl alcohol	93
n-Heptane	3
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 197  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S296-INA/S296-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
2-Butanone (MEK)	2.83	4.33	0.65
2-Hexanone (MBK)	ND	0.94	
Acetone	27.09	15.73	1.72
Benzene	1.24	0.80	1.56
<b>Chloroform</b>	<b>2.19</b>	<b>19.57</b>	<b>0.11</b>
Chloromethane	1.43	ND	
Cyclohexane	3.72	0.41	9.00
Ethanol	420.46	11.14	37.73
Ethyl acetate	2.63	0.58	4.56
Hexane	4.83	0.39	12.45
Isopropyl alcohol	92.52	2.09	44.35
M,p-Xylene	1.39	ND	
Methylene chloride	ND	11.01	
n-Heptane	2.70	3.24	0.84
Tetrachloroethene	ND	4.20	
Toluene	6.58	3.57	1.84

EXHIBIT 198  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S296-INA/S296-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
13	14	11	5
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 199  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Chloroform			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S296-VMP	35	1.0	8.8E-07
Q2-S296-VMP	23	4.3	3.9E-06
<b>Q1-S296-VMP</b>	<b>9</b>	<b>19.6</b>	<b>1.8E-05</b>

EXHIBIT 200  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Chloroform	Yes

**EXHIBIT 201**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER**  
**MONITORING WELLS**

<b>Summary Information and Data</b>	
Chemical	Chloroform
Closest Monitoring Well	MW-42
Distance	39.79
Concentration	1.1
Second Closest Monitoring Well	MW-30
Distance	68.68
Concentration	1 U
Third Closest Monitoring Well	MW-24B
Distance	73.65
Concentration	20 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S322**

**Chemicals of Concern observed at this home:**

- 1,4-Dichlorobenzene and tetrachloroethene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene and tetrachloroethene were detected in multiple VMP samples.
- 1,4-Dichlorobenzene and tetrachloroethene were both detected above an acceptable risk level of 1.0E-05 in VMP samples.
- Neither 1,4-dichlorobenzene nor tetrachloroethene was detected in the INA sample, but both were detected in the paired VMP sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells. Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 202  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q2-S322-PVMP, WEEK 21

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,2-Dichloroethane	0.1	8.6E-08
<b>1,4-Dichlorobenzene</b>	<b>49.5</b>	<b>2.2E-05</b>
Benzene	0.5	1.5E-07
Chloroform	0.2	2.2E-07
Ethylbenzene	0.7	7.6E-08
Methylene chloride	0.1	2.0E-09
<b>Tetrachloroethene</b>	<b>33.9</b>	<b>8.3E-06</b>
<b>Cumulative Cancer Risk</b>		<b>3.1E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	1.1	0.00002
1,2,4-Trimethylbenzene	1.0	0.01414
2-Butanone (MEK)	9.7	0.00019
Acetone	25.2	0.00008
Ethyl acetate	1.8	0.00005
Hexane	1.0	0.00014
Toluene	5.5	0.00011
Xylenes	2.7	0.00245
<b>Cumulative Hazard Index</b>		<b>0.01718</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	2.5
4-Methyl-2-pentanone (MIBK)	0.7
Ethanol	8.2
Isopropyl alcohol	12.0
n-Heptane	0.7
Propene	0.4
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.5
Carbon disulfide	0.3
Dichlorodifluoromethane (Freon12)	1.9
Trichlorofluoromethane (Freon 11)	1.7

EXHIBIT 203  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q2-S322-INA, WEEK 21

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
Benzene	1	4.3E-06
Chloromethane	2	1.4E-06
Ethylbenzene	1	1.5E-06
Methylene chloride	1	1.6E-07
<b>Cumulative Cancer Risk</b>		<b>7.3E-06</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	2	0.22897
2-Butanone (MEK)	2	0.00039
Acetone	32	0.00100
Ethyl acetate	1	0.00033
Hexane	1	0.00184
Toluene	47	0.00928
Xylenes	5	0.04632
<b>Cumulative Hazard Index</b>		<b>0.28812</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m<sup>3</sup>)</b>
Ethanol	154
Isopropyl alcohol	30
Dichlorodifluoromethane (Freon12)	4
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 204  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S322-INA/S322-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	1.15	ND	
1,2,4-Trimethylbenzene	1.67	1.03	1.62
1,2-Dichloroethane	ND	0.08	
<b>1,4-Dichlorobenzene</b>	<b>ND</b>	<b>49.48</b>	
2-Butanone (MEK)	2.01	9.67	0.21
2-Hexanone (MBK)	ND	2.54	
4-Methyl-2-pentanone (MIBK)	ND	0.66	
Acetone	31.84	25.19	1.26
Benzene	1.34	0.48	2.80
Carbon disulfide	ND	0.31	
Chloroform	ND	0.24	
Chloromethane	1.92	ND	
Ethanol	154.04	8.16	18.87
Ethyl acetate	1.08	1.77	0.61
Ethylbenzene	1.43	0.74	1.94
Hexane	1.34	0.99	1.36
Isopropyl alcohol	29.94	12.05	2.48
m,p-Xylene	3.90	1.78	2.20
Methylene chloride	0.83	ND	
n-Heptane	ND	0.70	
o-Xylene	1.17	0.91	1.29
Propene	ND	0.43	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>33.91</b>	
Toluene	47.41	5.46	8.69

EXHIBIT 205  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S322-INA/S322-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
15	21	12	12
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 206  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

1,4-Dichlorobenzene and Tetrachloroethene				
Sample No.	Week	Chemical	Concentration ( $\mu\text{m}^3$ )	Cancer Risk
Q3-S322-VMP2	30	1,4-Dichlorobenzene	0.7	3.3E-07
<b>Q3-S322-VMP2</b>	<b>30</b>	<b>Tetrachloroethene</b>	<b>40.3</b>	<b>9.8E-06</b>
Q3-S322-VMP1	30	1,4-Dichlorobenzene	1.2	5.5E-07
Q3-S322-VMP1	30	Tetrachloroethene	29.2	7.1E-06
Q3-S322-PVMP	30	1,4-Dichlorobenzene	0.8	3.8E-07
Q3-S322-PVMP	30	Tetrachloroethene	34.1	8.3E-06
Q2-S322-VMP2	21	1,4-Dichlorobenzene	0.6	2.7E-07
<b>Q2-S322-VMP2</b>	<b>21</b>	<b>Tetrachloroethene</b>	<b>53.0</b>	<b>1.3E-05</b>
Q2-S322-VMP2	21	1,4-Dichlorobenzene	ND	
Q2-S322-VMP1	21	Tetrachloroethene	20.4	5.0E-06
<b>Q2-S322-PVMP</b>	<b>21</b>	<b>1,4-Dichlorobenzene</b>	<b>49.5</b>	<b>2.2E-05</b>
Q2-S322-PVMP	21	Tetrachloroethene	33.9	8.3E-06
Q1-S322-VMP2	6	1,4-Dichlorobenzene	1.2	5.5E-07
<b>Q1-S322-VMP2</b>	<b>6</b>	<b>Tetrachloroethene</b>	<b>40.6</b>	<b>9.9E-06</b>
Q1-S322-PVMP	6	1,4-Dichlorobenzene	0.7	3.3E-07

**EXHIBIT 207  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
1,4-Dichlorobenzene	No
Tetrachloroethene	Yes

**EXHIBIT 208  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>		
<b>Chemical</b>	<b>1,4-Dichlorobenzene</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	GP-2F	GP-2F
Distance	15.07	15.07
Concentration	1 U	16
Second Closest Monitoring Well	MW-25A	MW-25A
Distance	30.73	30.73
Concentration	1 U	1 U
Third Closest Monitoring Well	MW-25B	MW-25B
Distance	35.12	35.12
Concentration	2 U	26

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S326**

**Chemical of Concern observed at this home:**

- 1,4-Dichlorobenzene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene was detected in multiple VMP samples.
- 1,4-Dichlorobenzene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 4 VMP samples.
- 1,4-Dichlorobenzene was detected in a higher concentration in the INA sample compared with the paired VMP sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells.

EXHIBIT 209  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q2-S326-VMP\_R, WEEK 22

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
<b>1,4-Dichlorobenzene</b>	<b>253</b>	<b>1.2E-04</b>
Methylene chloride	1	1.7E-08
Tetrachloroethene	10	2.5E-06
<b>Cumulative Cancer Risk</b>		<b>1.2E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	5	0.00010
Acetone	26	0.00008
Toluene	3	0.00005
Xylene	1	0.00127
<b>Cumulative Hazard Index</b>		<b>0.00150</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
Ethanol	8
Isopropyl alcohol	9
n-Heptane	1
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	7

**EXHIBIT 210**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INDOOR AIR SAMPLE: Q2-S326-INA, WEEK 22**

<b>Carcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,4-Dichlorobenzene	3,012	1.4E-02
Benzene	1	4.5E-06
Chloroform	3	2.8E-05
Chloromethane	1	9.1E-07
Ethylbenzene	2	2.2E-06
Methylene chloride	5	8.8E-07
Tetrachloroethene	2	6.0E-06
<b>Cumulative Cancer Risk</b>		<b>1.4E-02</b>
<b>Noncarcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	3	0.46468
2-Butanone (MEK)	7	0.00129
Acetone	73	0.00227
Chlorobenzene	26	0.49153
Ethyl acetate	15	0.00453
Hexane	5	0.00720
Styrene	1	0.00143
Toluene	16	0.00311
Xylenes	10	0.08987
<b>Cumulative Hazard Index</b>		<b>1.06591</b>



Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m <sup>3</sup> )
4-Isopropyltoluene	4
Ethanol	279
Isopropyl alcohol	89
n-Heptane	2
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	3

EXHIBIT 211  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S326-INA/S326-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	3.39	ND	
<b>1,4-Dichlorobenzene</b>	<b>3012.15</b>	<b>253.12</b>	<b>11.90</b>
2-Butanone (MEK)	6.72	5.13	1.31
4-Isopropyltoluene	4.08	ND	
Acetone	72.71	26.38	2.76
Benzene	1.40	ND	
Chlorobenzene	25.56	ND	
Chloroform	3.07	ND	
Chloromethane	1.28	ND	
Ethanol	279.05	8.26	33.79
Ethyl acetate	14.88	ND	
Ethylbenzene	2.17	ND	
Hexane	5.25	ND	
Isopropyl alcohol	89.08	8.54	10.43
m,p-Xylene	7.24	1.39	5.22
Methylene chloride	4.58	0.90	5.08
n-Heptane	1.93	1.23	1.57
o-Xylene	2.60	ND	
Styrene	1.49	ND	
Tetrachloroethene	2.44	10.17	0.24
Toluene	15.92	2.56	6.22

EXHIBIT 212  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S326-INA/S326-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
25	7	7	18
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 213  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

1,4-Dichlorobenzene			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S326-VMP	30	159	7.2E-05
Q2-S326-VMP_R	22	253	1.2E-04
Q2-S326-VMP	14	19	8.7E-06
Q1-S326-VMP	3	24	1.1E-05

EXHIBIT 214  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
1,4-Dichlorobenzene	No

EXHIBIT 215  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	1,4-Dichlorobenzene
Closest Monitoring Well	GP-2F
Distance	20.07
Concentration	1 U
Second Closest Monitoring Well	MW-49
Distance	39.83
Concentration	2 U
Third Closest Monitoring Well	MW-25A
Distance	45.4
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S335**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Chloroform was not detected in the INA sample, but was detected in the paired VMP sample.
- Chloroform was not detected in nearby groundwater wells.

EXHIBIT 216  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q1-S335-VMP, WEEK 9

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
<b>Chloroform</b>	<b>46</b>	<b>4.2E-05</b>
Tetrachloroethene	3	8.1E-07
<b>Cumulative Cancer Risk</b>		<b>4.3E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	1	0.00003
Acetone	9	0.00003
Toluene	3	0.00005
Xylene	2	0.00150
<b>Cumulative Hazard Index</b>		<b>0.00161</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	7
Isopropyl alcohol	7
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	3

**EXHIBIT 217**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INDOOR AIR SAMPLE: Q1-S335-INA, WEEK 9**

Carcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
1,3-Butadiene	2	2.2E-05
Benzene	2	7.3E-06
Chloromethane	3	2.1E-06
Methylene chloride	2	3.3E-07
Naphthalene	25	3.5E-04
<b>Cumulative Cancer Risk</b>		<b>3.8E-04</b>
Noncarcinogenic Chemicals		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
1,2,4-Trimethylbenzene	2	0.23571
2-Butanone (MEK)	2	0.00041
Acetone	29	0.00089
Hexane	1	0.00184
Toluene	7	0.00133
Xylene	3	0.02376
<b>Cumulative Hazard Index</b>		<b>0.26393</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	187
Isopropyl alcohol	36
n-Heptane	2
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 218  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S335-INA/S335-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	1.72	ND	
1,3-Butadiene	1.79	ND	
2-Butanone (MEK)	2.15	1.42	1.52
Acetone	28.52	8.98	3.17
Benzene	2.27	ND	
<b>Chloroform</b>	<b>ND</b>	<b>46.29</b>	
Chloromethane	2.89	ND	
Ethanol	187.42	7.41	25.29
Hexane	1.34	ND	
Isopropyl alcohol	35.58	6.63	5.37
M,p-Xylene	2.60	1.65	1.58
Methylene chloride	1.70	ND	
Naphthalene	25.29	ND	
n-Heptane	2.46	ND	
Tetrachloroethene	ND	3.32	
Toluene	6.77	2.60	2.61

EXHIBIT 219  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S335-INA/S335-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
14	8	6	10
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 220**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Chloroform</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S335-VMP</b>	<b>32</b>	<b>14</b>	<b>1.3E-05</b>
<b>Q2-S335-VMP</b>	<b>24</b>	<b>9</b>	<b>7.8E-06</b>
<b>Q1-S335-VMP</b>	<b>9</b>	<b>46</b>	<b>4.2E-05</b>

**EXHIBIT 221**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Chloroform	No

**EXHIBIT 222**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Chloroform</b>
Closest Monitoring Well	MW-24B
Distance	32.04
Concentration	20 U
Second Closest Monitoring Well	GP-7A
Distance	37.58
Concentration	1 U
Third Closest Monitoring Well	MW-30
Distance	38.87
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S339**

**Chemical of Concern observed at this home:**

- Naphthalene

**Principal Findings/Conclusion:**

- Naphthalene was detected in 1 VMP samples.
- Naphthalene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 6 VMP samples.
- Naphthalene was detected in the INA sample, but was not detected in the paired VMP sample.
- Naphthalene was not detected in nearby groundwater wells.

EXHIBIT 223  
SAMPLING RESULTS AND CUMULATIVE RISK:  
SUB-SLAB VAPOR SAMPLE: Q3-S339-VMP2, WEEK 33

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	5.7	2.6E-06
Benzene	0.7	2.4E-07
Carbon tetrachloride	0.4	2.4E-07
Chloroform	1.3	1.2E-06
Chloromethane	0.9	6.6E-08
Ethylbenzene	0.3	3.1E-08
Methyl tert-butyl ether	0.8	8.1E-09
Methylene chloride	0.3	6.0E-09
<b>Naphthalene</b>	<b>9.2</b>	<b>1.3E-05</b>
Tetrachloroethene	15.4	3.8E-06
<b>Cumulative Cancer Risk</b>		<b>2.1E-05</b>



<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	0.2	0.00000
1,2,4-Trimethylbenzene	0.4	0.00539
2-Butanone (MEK)	16.2	0.00031
Acetone	65.8	0.00021
Cyclohexane	0.3	0.00001
Hexane	0.8	0.00012
Toluene	1.8	0.00004
Xylene	0.7	0.00063
<b>Cumulative Hazard Index</b>		<b>0.00670</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	7.1
4-Isopropyltoluene	1.2
4-Methyl-2-pentanone (MIBK)	0.9
Carbon disulfide	0.2
n-Butylbenzene	0.2
n-Heptane	0.7
Propene	4.1
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Dichlorodifluoromethane (Freon 12)	2.4
Trichlorofluoromethane (Freon 11)	3.1

EXHIBIT 224  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INDOOR AIR SAMPLE: Q1-S339-INA, WEEK 4

<b>Carcinogenic Chemicals</b>		
<b>Carcinogens</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	28	1.3E-04
Benzene	1	4.2E-06
Chloromethane	2	1.2E-06
Naphthalene	146	2.0E-03
<b>Cumulative Cancer Risk</b>		<b>2.2E-03</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Noncarcinogens</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	2	0.00032
Acetone	29	0.00091
Hexane	1	0.00169
Toluene	3	0.00064
Xylene	1	0.01267
<b>Cumulative Hazard Index</b>		<b>0.01623</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	462
Isopropyl alcohol	15
Dichlorodifluoromethane (Freon12)	2

EXHIBIT 225  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S339-INA/S339-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	ND	0.74	
1,4-Dichlorobenzene	27.66	1.26	21.90
2-Butanone (MEK)	1.68	13.65	0.12
2-Hexanone (MBK)	ND	0.94	
4-Methyl-2-pentanone (MIBK)	ND	0.45	
Acetone	28.99	28.99	1.00
Benzene	1.31	0.51	2.57
Chloroform	ND	2.43	
Chloromethane	1.61	0.27	6.00
cis-1,2-Dichloroethene	ND	0.59	
Ethanol	461.94	14.80	31.21
Ethyl acetate	ND	1.80	
Ethylbenzene	ND	0.48	
Hexane	1.23	0.35	3.50
Isopropyl alcohol	15.31	2.80	5.47
m,p-Xylene	1.39	1.00	1.39
<b>Naphthalene</b>	<b>146.06</b>	<b>ND</b>	
n-Heptane	ND	0.86	
o-Xylene	ND	0.43	
Tetrachloroethene	ND	6.17	
Tetrahydrofuran	ND	7.17	
Toluene	3.27	7.11	0.46
Trichloroethene	ND	3.22	

EXHIBIT 226  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S339-INA/S339-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
11	22	10	13
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 227  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Naphthalene			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S339-VMP2	33	9	1.3E-05
Q3-S339-VMP1	33	ND	
Q2-S339-VMP2	14	ND	
Q2-S339-VMP1	14	ND	
Q1-S339-VMP2	4	ND	
Q1-S339-VMP1	4	ND	

EXHIBIT 228  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Naphthalene	No

EXHIBIT 229  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Naphthalene
Closest Monitoring Well	MW-51
Distance	54.39
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	60.98
Concentration	1 U
Third Closest Monitoring Well	MW-41A
Distance	61.4
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S347**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 1 out of the 4 VMP samples.
- Chloroform was not detected in the INA sample, but was detected in the paired VMP sample.
- Chloroform was not detected in nearby groundwater wells.

EXHIBIT 230  
SAMPLING RESULTS AND CUMULATIVE RISK:  
SUB-SLAB VAPOR SAMPLE: Q1-S347-VMP1, WEEK 5

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	4	1.7E-06
Benzene	3	9.2E-07
<b>Chloroform</b>	<b>12</b>	<b>1.0E-05</b>
Chloromethane	1	4.0E-08
Tetrachloroethene	7	1.7E-06
Tetrahydrofuran	28	3.0E-06
<b>Cumulative Cancer Risk</b>		<b>1.8E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	6	0.00011
Acetone	32	0.00010
Ethyl acetate	1	0.00002
Hexane	1	0.00012
Toluene	1	0.00002
<b>Cumulative Hazard Index</b>		<b>0.00037</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	1
4-Methyl-2-pentanone (MIBK)	1
Carbon disulfide	9
Ethanol	15
Isopropyl alcohol	3
n-Heptane	1
Dichlorodifluoromethane (Freon12)	2
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 231  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INDOOR AIR SAMPLE: Q1-S347-INA, WEEK 5

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	794	3.6E-03
Benzene	2	5.4E-06
Chloromethane	1	7.7E-07
<b>Cumulative Cancer Risk</b>		<b>3.6E-03</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	1	0.00028
Acetone	24	0.00074
Ethyl acetate	3	0.00080
Hexane	2	0.00241
Toluene	7	0.00143
Xylene	2	0.01782
<b>Cumulative Hazard Index</b>		<b>0.02348</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Ethanol	351
Isopropyl alcohol	108



EXHIBIT 232  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S347-INA/S347-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,4-Dichlorobenzene	793.62	3.67	216.39
2-Butanone (MEK)	1.44	5.84	0.25
2-Hexanone (MBK)	ND	1.31	
4-Methyl-2-pentanone (MIBK)	ND	0.70	
Acetone	23.76	32.08	0.74
Benzene	1.66	2.84	0.58
Carbon disulfide	ND	8.71	
<b>Chloroform</b>	<b>ND</b>	<b>11.53</b>	
Chloromethane	1.07	0.56	1.93
Ethanol	350.70	15.10	23.22
Ethyl acetate	2.63	0.61	4.29
Hexane	1.76	0.88	2.00
Isopropyl alcohol	108.22	2.75	39.37
m,p-Xylene	1.95	ND	
n-Heptane	ND	1.23	
Tetrachloroethene	ND	6.78	
Tetrahydrofuran	ND	28.07	
Toluene	7.30	1.17	6.26

EXHIBIT 233  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S347-INA/S347-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
11	17	10	8
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 234**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Chloroform</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q2-S347-VMP2	23	4	3.9E-06
Q2-S347-VMP1	23	9	8.3E-06
Q1-S347-VMP2	5	4	3.7E-06
<b>Q1-S347-VMP1</b>	<b>5</b>	<b>12</b>	<b>1.0E-05</b>

**EXHIBIT 235**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Chloroform	No

**EXHIBIT 236**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Chloroform</b>
Closest Monitoring Well	MW-51
Distance	49.36
Concentration	1 U
Second Closest Monitoring Well	MW-41B
Distance	65.7
Concentration	1 U
Third Closest Monitoring Well	MW-41A
Distance	66.18
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S354**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Chloroform was not detected in the INA sample, but was detected in the paired VMP sample.
- Chloroform was detected in 1 out of 3 nearby groundwater wells.

EXHIBIT 237  
SAMPLING RESULTS AND CUMULATIVE RISK:  
SUB-SLAB VAPOR SAMPLE: Q1-S354-VMP, WEEK 5

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Benzene	1.5	4.7E-07
<b>Chloroform</b>	<b>80.3</b>	<b>7.3E-05</b>
Chloromethane	0.2	1.6E-08
Ethylbenzene	0.4	4.5E-08
Tetrachloroethene	11.5	2.8E-06
Tetrahydrofuran	1.1	1.2E-07
<b>Cumulative Cancer Risk</b>		<b>7.6E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	0.8	0.01078
2-Butanone (MEK)	3.4	0.00007
Acetone	23.8	0.00007
Ethanol	11.1	0.00034
Toluene	3.0	0.00006
Xylenes	2.2	0.00202
<b>Cumulative Hazard Index</b>		<b>0.01333</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	1.5
Isopropyl alcohol	2.0
n-Heptane	0.5
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Trichlorofluoromethane (Freon 11)	1.3

EXHIBIT 238  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S354-INA, WEEK 5

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	4	1.6E-05
Benzene	3	9.1E-06
Chloromethane	1	1.1E-06
<b>Cumulative Cancer Risk</b>		<b>2.6E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	1	0.00024
Acetone	36	0.00111
Cyclohexane	2	0.00028
Ethyl acetate	16	0.00499
Hexane	6	0.00773
Toluene	4	0.00077
Xylene	1	0.01307
<b>Cumulative Hazard Index</b>		<b>0.02818</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	469
Isopropyl alcohol	1,055
n-Heptane	3
Dichlorodifluoromethane (Freon12)	2

EXHIBIT 239  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S354-INA/S354-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	ND	0.79	
1,4-Dichlorobenzene	3.55	ND	
2-Butanone (MEK)	1.24	3.42	0.36
2-Hexanone (MBK)	ND	1.48	
Acetone	35.64	23.76	1.50
Benzene	2.81	1.47	1.91
<b>Chloroform</b>	<b>ND</b>	<b>80.31</b>	
Chloromethane	1.49	0.23	6.55
Cyclohexane	1.76	ND	
Ethanol	469.48	11.11	42.28
Ethyl acetate	16.39	ND	
Ethylbenzene	ND	0.43	
Hexane	5.64	ND	
Isopropyl alcohol	1055.21	2.04	518.07
m,p-Xylene	1.43	1.69	0.85
n-Heptane	3.03	0.45	6.73
o-Xylene	ND	0.52	
Tetrachloroethene	ND	11.46	
Tetrahydrofuran	ND	1.12	
Toluene	3.91	2.97	1.32

EXHIBIT 240  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S354-INA/S354-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
13	16	9	11
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 241  
 |COMPARING CONCENTRATION AND RISKS:  
 ALL VMP SAMPLES

<b>Chloroform</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q3-S354-VMP	35	1.5	1.4E-06
Q2-S354-VMP	20	24.0	2.2E-05
Q1-S354-VMP	5	80.3	7.3E-05

EXHIBIT 242  
 SPATIAL ANALYSIS OF NEARBY HOMES

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Chloroform	No

EXHIBIT 243  
 GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
 MONITORING WELLS

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Chloroform</b>
Closest Monitoring Well	MW-42
Distance	43.79
Concentration	1.1
Second Closest Monitoring Well	MW-30
Distance	68.89
Concentration	1 U
Third Closest Monitoring Well	MW-24B
Distance	75.09
Concentration	20 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S360**

**Chemical of Concern observed at this home:**

- Chloroform

**Principal Findings/Conclusion:**

- Chloroform was detected in multiple VMP samples.
- Chloroform was detected above an acceptable risk level of 1.0E-05 in 1 out of the 2 VMP samples.
- Chloroform was not detected in the INA sample, but was detected in the paired VMP sample.
- Chloroform was not detected in nearby groundwater wells.

EXHIBIT 244  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q1-S360-VMP, WEEK 6

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
Benzene	0.7	2.3E-07
<b>Chloroform</b>	20.8	<b>1.9E-05</b>
Chloromethane	0.5	3.5E-08
Tetrachloroethene	6.2	1.5E-06
Tetrahydrofuran	2.7	2.9E-07
<b>Cumulative Cancer Risk</b>		<b>2.1E-05</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
2-Butanone (MEK)	3.2	0.00006
Acetone	7.8	0.00002
Ethanol	9.4	0.00029
Hexane	0.4	0.00005
Toluene	0.8	0.00002
Xylene	0.6	0.00051
<b>Cumulative Hazard Index</b>		<b>0.00095</b>



Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	0.7
Isopropyl alcohol	2.3
n-Heptane	0.5
Trichlorofluoromethane (Freon 11)	1.7

**EXHIBIT 245**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INDOOR AIR SAMPLE: Q1-S360-INA, WEEK 6**

<b>Carcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	0.7	2.3E-06
Carbon tetrachloride	0.6	3.9E-06
Chloromethane	1.0	7.2E-07
<b>Cumulative Cancer Risk</b>		<b>6.9E-06</b>
<b>Noncarcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
2-Butanone (MEK)	0.8	0.00015
Acetone	4.7	0.00015
Hexane	0.6	0.00082
Toluene	1.4	0.00028
Xylenes	1.5	0.01346
<b>Cumulative Hazard Index</b>		<b>0.01486</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	27.2
Isopropyl alcohol	1.3
n-Heptane	0.5
Trichlorofluoromethane (Freon 11)	1.6

EXHIBIT 246  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S360-INA/S360-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
2-Butanone (MEK)	0.77	3.16	0.24
2-Hexanone (MBK)	ND	0.70	
Acetone	4.68	7.84	0.60
Benzene	0.70	0.70	1.00
Carbon tetrachloride	0.63	ND	
<b>Chloroform</b>	<b>ND</b>	<b>20.83</b>	
Chloromethane	1.01	0.50	2.04
Ethanol	27.15	9.41	2.89
Hexane	0.60	0.35	1.70
Isopropyl alcohol	1.30	2.33	0.56
m,p-Xylene	1.08	0.56	1.92
n-Heptane	0.49	0.49	1.00
o-Xylene	0.39	ND	
Tetrachloroethene	ND	6.24	
Tetrahydrofuran	ND	2.65	
Toluene	1.43	0.79	1.81

EXHIBIT 247  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S360-INA/S360-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
12	14	10	16
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 248**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Chloroform</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
Q2-S360-VMP	20	2	1.5E-06
<b>Q1-S360-VMP</b>	<b>6</b>	<b>21</b>	<b>1.9E-05</b>

**EXHIBIT 249**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Chloroform	No

**EXHIBIT 250**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Chloroform</b>
Closest Monitoring Well	MW-39R
Distance	17.8
Concentration	1 U
Second Closest Monitoring Well	MW-40
Distance	43.56
Concentration	1 U
Third Closest Monitoring Well	MW-38
Distance	61.7
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S362**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 2 out of the 3 VMP samples.
- Tetrachloroethene was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

**EXHIBIT 251**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**SUB-SLAB VAPOR SAMPLE: Q3-S362-VMP, WEEK 28**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	5.2	2.4E-06
Benzene	0.1	4.1E-08
Carbon tetrachloride	0.6	3.9E-07
Chloroform	9.1	8.2E-06
Methyl tert-butyl ether	0.7	7.3E-09
<b>Tetrachloroethene</b>	<b>81.4</b>	<b>2.0E-05</b>
Trichloroethene	2.9	2.4E-07
<b>Cumulative Cancer Risk</b>		<b>3.1E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	11.0	0.00021
1,2,4-Trimethylbenzene	0.6	0.00875
2-Butanone (MEK)	1.7	0.00003
Acetone	8.1	0.00003
Cyclohexane	0.8	0.00001
Ethyl acetate	1.3	0.00004
Hexane	0.6	0.00008
Toluene	4.7	0.00009
Xylene	0.3	0.00028
<b>Cumulative Hazard Index</b>		<b>0.00952</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
Carbon disulfide	0.4
Ethanol	0.6
Isopropyl alcohol	1.5
n-Heptane	1.4
1,1,2-Trichlorotrifluoroethane (Freon 113)	3.8
Bromodichloromethane	0.3
Dichlorodifluoromethane (Freon12)	0.9
Trichlorofluoromethane (Freon 11)	1.8

EXHIBIT 252  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INDOOR AIR SAMPLE: Q1-S362-INA, WEEK 7

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	480	2.2E-03
Benzene	1	3.5E-06
Chloromethane	1	9.1E-07
Naphthalene	16	2.2E-04
Tetrachloroethene	3	6.1E-06
<b>Cumulative Cancer Risk</b>		<b>2.4E-03</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	2	0.00040
Acetone	29	0.00089
Ethyl acetate	8	0.00246
Hexane	1	0.00140
Toluene	13	0.00261
<b>Cumulative Hazard Index</b>		<b>0.00775</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	290
Isopropyl alcohol	93
Dichlorodifluoromethane (Freon12)	35
Trichlorofluoromethane (Freon 11)	16

EXHIBIT 253  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S362-INA/S362-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	3.93	ND	
1,1-Dichloroethene	0.79	ND	
1,4-Dichlorobenzene	480.38	1.92	249.69
2-Butanone (MEK)	2.06	4.92	0.42
2-Hexanone (MBK)	ND	1.56	
Acetone	28.52	14.47	1.97
Benzene	1.08	1.18	0.92
Chloroform	ND	6.81	
Chloromethane	1.28	ND	
Ethanol	290.36	9.60	30.26
Ethyl acetate	8.07	0.76	10.67
Hexane	1.02	ND	
Isopropyl alcohol	93.25	21.28	4.38
m,p-Xylene	ND	1.08	
Methyl tert-butyl ether	ND	1.12	
Naphthalene	15.65	ND	
n-Heptane	ND	0.90	
<b>Tetrachloroethene</b>	<b>2.51</b>	<b>30.38</b>	<b>0.08</b>
Tetrahydrofuran	ND	0.86	
Toluene	13.32	4.36	3.05
Trichloroethene	ND	2.58	

EXHIBIT 254  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 S362-INA/S362-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
14	16	9	12
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 255**  
**COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q3-S362-VMP</b>	<b>28</b>	<b>81</b>	<b>2.0E-05</b>
<b>Q2-S362-VMP</b>	<b>20</b>	<b>61</b>	<b>1.5E-05</b>
<b>Q1-S362-VMP</b>	<b>7</b>	<b>30</b>	<b>7.4E-06</b>

**EXHIBIT 256**  
**SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 257**  
**GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
Closest Monitoring Well	MW-29A
Distance	73.54
Concentration	1.3
Second Closest Monitoring Well	MW-29B
Distance	73.58
Concentration	8.3
Third Closest Monitoring Well	MW-53
Distance	84.08
Concentration	1 U



**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S373**

**Chemical of Concern observed at this home:**

- None

**Principal Findings/Conclusion:**

- No COCs are detected in any VMP sample.

**EXHIBIT 258**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**SUB-SLAB VAPOR SAMPLE: Q3-S373-VMP, WEEK 29**

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	1.7	7.9E-07
Benzene	13.7	4.4E-06
Carbon tetrachloride	0.3	2.0E-07
Chloroform	0.9	8.4E-07
Ethylbenzene	2.0	2.1E-07
Tetrachloroethene	16.2	4.0E-06
<b>Cumulative Cancer Risk</b>		<b>1.0E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (µg/m<sup>3</sup>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	0.5	0.00001
1,2,4-Trimethylbenzene	0.7	0.00943
2-Butanone (MEK)	3.0	0.00006
Acetone	12.5	0.00004
Cyclohexane	0.2	0.00000
Ethyl acetate	10.1	0.00031
Hexane	1.4	0.00019
Toluene	1.5	0.00003
Xylene	1.1	0.00099
<b>Cumulative Hazard Index</b>		<b>0.01105</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (µg/m3)</b>
Ethanol	4.7
Isopropyl alcohol	1.2
Isopropylbenzene	0.1
n-Butylbenzene	0.3
n-Heptane	0.9
Propene	0.3
1,1,2-Trichlorotrifluoroethane (Freon 113)	1.0
Dichlorodifluoromethane (Freon12)	0.9
Trichlorofluoromethane (Freon 11)	1.7
2-Hexanone (MBK)	1.0
4-Methyl-2-pentanone (MIBK)	0.5
Carbon disulfide	1.1

EXHIBIT 259  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q3-S373-INA, WEEK 35

<b>Carcinogenic Chemicals</b>		
<b>Carcinogens</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,2-Dichloroethane	0.4	4.3E-06
1,4-Dichlorobenzene	2.0	9.0E-06
Benzene	0.6	2.0E-06
Carbon tetrachloride	0.6	3.5E-06
Chloromethane	1.2	8.6E-07
Ethylbenzene	0.5	4.9E-07
Methylene chloride	3.0	5.8E-07
Naphthalene	19.2	2.7E-04
Tetrachloroethene	2.0	5.0E-06
Trichloroethene	1.2	9.9E-07
<b>Cumulative Cancer Risk</b>		<b>2.9E-04</b>
<b>Noncarcinogenic Chemicals</b>		
<b>Noncarcinogens</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,1,1-Trichloroethane	4.3	0.00083
1,2,4-Trimethylbenzene	0.8	0.10775
2-Butanone (MEK)	1.2	0.00023
Acetone	7.9	0.00025
cis-1,2-Dichloroethene	0.6	0.01738
Ethyl acetate	1.5	0.00046
Hexane	1.4	0.00198
Styrene	0.6	0.00061
Toluene	3.4	0.00066
Xylenes	1.9	0.01702
<b>Cumulative Hazard Index</b>		<b>0.14718</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
n-Heptane	0.8
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Dichlorodifluoromethane (Freon12)	2.8
Trichlorofluoromethane (Freon 11)	2.2

EXHIBIT 260  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES: S373-INA/S373-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,1,1-Trichloroethane	4.31	0.49	8.78
1,1,1-Trichloroethane	ND	ND	
1,2,4-Trimethylbenzene	0.79	0.69	1.14
1,2-Dichloroethane	0.40	ND	
1,4-Dichlorobenzene	1.98	1.74	1.14
2-Butanone (MEK)	1.21	2.98	0.41
2-Hexanone (MBK)	ND	1.02	
4-Methyl-2-pentanone (MIBK)	ND	0.49	
Acetone	7.87	12.50	0.63
Benzene	0.61	13.72	0.04
Carbon disulfide	ND	1.09	
Carbon tetrachloride	0.57	ND	
Carbon tetrachloride	ND	0.31	
Chloroform	ND	0.92	
Chloromethane	1.20	ND	
cis-1,2-Dichloroethene	0.63	ND	
Cyclohexane	ND	0.17	
Ethanol	ND	4.73	
Ethyl acetate	1.51	10.05	0.15
Ethylbenzene	0.48	2.04	0.23
Hexane	1.45	1.37	1.05
Isopropyl alcohol	ND	1.18	
Isopropylbenzene	ND	0.15	
m,p-Xylene	1.34	1.08	1.24
Methylene chloride	3.02	ND	
Naphthalene	19.21	ND	
n-Butylbenzene	ND	0.33	
n-Heptane	0.78	ND	
n-Heptane	ND	0.94	
o-Xylene	0.52	ND	
Propene	ND	0.29	
Styrene	0.64	ND	
Tetrachloroethene	2.03	16.21	0.13
Toluene	3.39	1.51	2.25
Trichloroethene	1.18	ND	

EXHIBIT 261  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S373-INA/S373-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
22	25	12	23
Conclusion	No Evidence of Cross-Slab Transport		

EXHIBIT 262  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

**Not Applicable-No COCs Were Identified**

EXHIBIT 263  
SPATIAL ANALYSIS OF NEARBY HOMES

**Not Applicable-No COCs Were Identified**

EXHIBIT 264  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

**Not Applicable-No COCs Were Identified**

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S401**

**Chemical of Concern observed at this home:**

- 1,4-Dichlorobenzene

**Principal Findings/Conclusion:**

- 1,4-Dichlorobenzene was detected in multiple VMP samples.
- 1,4-Dichlorobenzene was detected above an acceptable risk level of 1.0E-05 in 1 out of the 3 VMP samples.
- 1,4-Dichlorobenzene was detected in a higher concentration in the INA sample than in the paired VMP sample.
- 1,4-Dichlorobenzene was not detected in nearby groundwater wells.

EXHIBIT 265  
SAMPLING RESULTS AND CUMULATIVE RISK:  
SUB-SLAB VAPOR SAMPLE: Q3-S401-VMP, WEEK 32

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>1,4-Dichlorobenzene</b>	<b>202.0</b>	<b>9.2E-05</b>
Benzene	0.5	1.7E-07
Carbon tetrachloride	0.7	4.3E-07
Chloroform	3.0	2.7E-06
Methylene chloride	0.1	2.0E-09
Tetrachloroethene	2.4	6.0E-07
<b>Cumulative Cancer Risk</b>		<b>9.6E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
1,1,1-Trichloroethane	0.7	0.00001
2-Butanone (MEK)	1.5	0.00003
Acetone	3.1	0.00001
Cyclohexane	0.6	0.00001
Ethyl acetate	27.2	0.00083
Toluene	1.3	0.00003
<b>Cumulative Hazard Index</b>		<b>0.00091</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
2-Hexanone (MBK)	0.4
Carbon disulfide	0.1
n-Heptane	0.2
1,1,2-Trichlorotrifluoroethane (Freon 113)	0.8
Dichlorodifluoromethane (Freon 12)	3.3
Trichlorofluoromethane (Freon 11)	2.3

EXHIBIT 266  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INDOOR AIR SAMPLE: Q1-S401-INA, WEEK 8

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,2-Dichloroethane	1	1.2E-05
1,4-Dichlorobenzene	34	1.5E-04
Benzene	8	2.5E-05
Chloroform	6	5.1E-05
Chloromethane	2	1.5E-06
Ethylbenzene	1	1.1E-06
Methylene chloride	18	3.5E-06
Naphthalene	14	1.9E-04
<b>Cumulative Cancer Risk</b>		<b>4.4E-04</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	3	0.43774
1,3,5-Trimethylbenzene	1	0.17167
2-Butanone (MEK)	4	0.00082
Acetone	81	0.00253
Cyclohexane	3	0.00053
Ethyl acetate	9	0.00269
Hexane	12	0.01589
Styrene	3	0.00277
Toluene	7	0.00138
Xylenes	5	0.04434
<b>Cumulative Hazard Index</b>		<b>0.68038</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
4-Ethyltoluene	1
Ethanol	1,499
Isopropyl alcohol	75
n-Heptane	8
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	3



EXHIBIT 267  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S401-INA/S401-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	3.20	ND	
1,2-Dichloroethane	1.17	ND	
1,3,5-Trimethylbenzene	1.08	ND	
<b>1,4-Dichlorobenzene</b>	<b>34.03</b>	<b>2.40</b>	<b>14.15</b>
2-Butanone (MEK)	4.28	2.39	1.79
2-Hexanone (MBK)	ND	0.57	
4-Ethyltoluene	0.98	ND	
Acetone	81.03	17.61	4.60
Benzene	7.66	1.37	5.58
Chloroform	5.65	ND	
Chloromethane	2.11	ND	
Cyclohexane	3.30	ND	
Ethanol	1498.96	13.22	113.41
Ethyl acetate	8.83	ND	
Ethylbenzene	1.08	ND	
Hexane	11.60	ND	
Isopropyl alcohol	74.60	4.52	16.52
m,p-Xylene	3.73	0.43	8.60
Methylene chloride	18.06	0.45	40.00
Naphthalene	13.98	ND	
n-Heptane	8.07	0.53	15.15
o-Xylene	1.13	ND	
Styrene	2.89	ND	
Tetrachloroethene	ND	0.68	
Tetrahydrofuran	ND	0.50	
Toluene	7.07	1.02	6.96

EXHIBIT 268  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
S401-INA/S401-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
23	13	10	16
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 269  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

1,4 Dichlorobenzene			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S401-VMP	32	202	9.2E-05
Q2-S401-VMP	16	1	4.9E-07
Q1-S401-VMP	8	2	1.1E-06

EXHIBIT 270  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
1,4-Dichlorobenzene	No

EXHIBIT 271  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	1,4-Dichlorobenzene
Closest Monitoring Well	MW-19
Distance	14.29
Concentration	1 U
Second Closest Monitoring Well	MW-22
Distance	29.75
Concentration	5 U
Third Closest Monitoring Well	GP-7A
Distance	35.33
Concentration	1 U

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S416**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in multiple VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in 3 out of the 3 VMP samples.
- Tetrachloroethene was not detected in the INA sample, but was detected in the paired VMP sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 272  
SAMPLING RESULTS AND CUMULATIVE RISK:  
SUB-SLAB VAPOR SAMPLE: Q1-S416-VMP, WEEK 9

<b>Carcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
1,4-Dichlorobenzene	28	1.3E-05
Benzene	2	6.0E-07
Chloroform	2	1.7E-06
Ethylbenzene	9	8.9E-07
<b>Tetrachloroethene</b>	<b>144</b>	<b>3.5E-05</b>
<b>Cumulative Cancer Risk</b>		<b>5.1E-05</b>

<b>Noncarcinogenic Chemicals</b>		
<b>Chemical</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Hazard Quotient</b>
1,2,4-Trimethylbenzene	5	0.07408
2-Butanone (MEK)	3	0.00006
Acetone	32	0.00010
Cyclohexane	5	0.00009
Hexane	1	0.00015
Toluene	6	0.00011
Xylenes	57	0.05242
<b>Cumulative Hazard Index</b>		<b>0.12701</b>

<b>Chemicals Without Toxicity Values Or Not Evaluated</b>	<b>Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
2-Hexanone (MBK)	2
4-Ethyltoluene	3
4-Methyl-2-pentanone (MIBK)	6
Ethanol	8
Isopropyl alcohol	3
n-Heptane	79
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 273  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 INA/VMP PAIRED SAMPLE:  
 INDOOR AIR SAMPLE: Q1-S416-INA, WEEK 9

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	3	1.2E-05
Benzene	2	6.3E-06
Chloromethane	1	9.9E-07
Tetrahydrofuran	1	1.3E-06
<b>Cumulative Cancer Risk</b>		<b>2.1E-05</b>
Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	6	0.00112
Acetone	26	0.00082
Cyclohexane	1	0.00023
Ethyl acetate	2	0.00066
Hexane	4	0.00526
Toluene	5	0.00107
Xylene	2	0.02059
<b>Cumulative Hazard Index</b>		<b>0.02975</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration ( $\mu\text{g}/\text{m}^3$ )
Ethanol	1,013
Isopropyl alcohol	30
n-Heptane	2
Dichlorodifluoromethane (Freon12)	3

EXHIBIT 274  
CALCULATED ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S416-INA/Q1-S416-VMP

Chemical	Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )	Sub-Slab Concentration ( $\mu\text{g}/\text{m}^3$ )	Ratio: Indoor Air/ Sub-Slab
1,2,4-Trimethylbenzene	5.41	ND	
1,4-Dichlorobenzene	2.65	28.14	0.09
2-Butanone (MEK)	5.81	3.24	1.79
2-Hexanone (MBK)	ND	2.34	
4-Ethyltoluene	ND	2.61	
4-Methyl-2-pentanone (MIBK)	ND	6.23	
Acetone	26.38	31.84	0.83
Benzene	1.95	1.85	1.05
Chloroform	ND	1.85	
Chloromethane	1.38	ND	
Cyclohexane	1.45	5.30	0.27
Ethanol	1012.50	7.64	132.59
Ethyl acetate	2.16	ND	
Ethylbenzene	ND	8.63	
Hexane	3.84	1.09	3.52
Isopropyl alcohol	30.18	2.55	11.83
m,p-Xylene	2.25	44.22	0.05
n-Heptane	2.42	78.68	0.03
o-Xylene	ND	13.18	
<b>Tetrachloroethene</b>	<b>ND</b>	<b>144.44</b>	
Tetrahydrofuran	1.24	ND	
Toluene	5.46	5.68	0.96

EXHIBIT 275  
SUMMARY ATTENUATION FACTORS:  
INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
Q1-S416-INA/Q1-S416-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
15	18	11	11
Conclusion: No Evidence of Cross-Slab Transport			

EXHIBIT 276  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES

Tetrachloroethene			
Sample No.	Week	Concentration ( $\mu\text{m}/\text{m}^3$ )	Cancer Risk
Q3-S416-VMP	33	97	2.4E-05
Q2-S416-VMP	23	90	2.2E-05
Q1-S416-VMP	9	144	3.5E-05

EXHIBIT 277  
SPATIAL ANALYSIS OF NEARBY HOMES

Chemical Posing Risk	Homes With Elevated VMP Concentrations Nearby?
Tetrachloroethene	No



EXHIBIT 278  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER  
MONITORING WELLS

Summary Information and Data	
Chemical	Tetrachloroethene
Closest Monitoring Well	MW-40
Distance	16.95
Concentration	1.4
Second Closest Monitoring Well	MW-39R
Distance	40.48
Concentration	1 U
Third Closest Monitoring Well	MW-25B
Distance	40.66
Concentration	26

**ANALYSIS FOR** [REDACTED]  
**SAMPLE ID S419**

**Chemical of Concern observed at this home:**

- Tetrachloroethene

**Principal Findings/Conclusion:**

- Tetrachloroethene was detected in 1 VMP samples.
- Tetrachloroethene was detected above an acceptable risk level of 1.0E-05 in the VMP sample.
- Tetrachloroethene was detected in a higher concentration in the paired VMP sample compared with the INA sample.
- Tetrachloroethene was detected in 2 out of 3 nearby groundwater wells.

EXHIBIT 279  
 SAMPLING RESULTS AND CUMULATIVE RISK:  
 SUB-SLAB VAPOR SAMPLE: Q1-S419-VMP, WEEK 7

Carcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Cancer Risk
1,4-Dichlorobenzene	0.8	3.6E-07
Benzene	1.1	3.6E-07
Chloroform	0.9	8.4E-07
<b>Tetrachloroethene</b>	<b>70.5</b>	<b>1.7E-05</b>
<b>Cumulative Cancer Risk</b>		<b>1.9E-05</b>

Noncarcinogenic Chemicals		
Chemical	Concentration ( $\mu\text{g}/\text{m}^3$ )	Hazard Quotient
2-Butanone (MEK)	3.9	0.00008
Acetone	22.8	0.00007
Toluene	5.0	0.00010
Xylene	0.9	0.00083
<b>Cumulative Hazard Index</b>		<b>0.00108</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
2-Hexanone (MBK)	0.8
Carbon disulfide	0.5
Ethanol	10.7
Isopropyl alcohol	1.2
n-Heptane	0.9
Dichlorodifluoromethane (Freon12)	1.4
Trichlorofluoromethane (Freon 11)	6.3

**EXHIBIT 280**  
**SAMPLING RESULTS AND CUMULATIVE RISK:**  
**INDOOR AIR SAMPLE: Q1-S419-INA, WEEK 7**

<b>Carcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Cancer Risk
Benzene	1	3.6E-06
Chloromethane	1	9.6E-07
Methylene chloride	3	6.7E-07
Tetrachloroethene	2	6.0E-06
<b>Cumulative Cancer Risk</b>		<b>1.1E-05</b>
<b>Noncarcinogenic Chemicals</b>		
Chemical	Concentration (µg/m <sup>3</sup> )	Hazard Quotient
Acetone	40	0.00125
Toluene	9	0.00166
Xylene	3	0.02455
<b>Cumulative Hazard Index</b>		<b>0.02747</b>

Chemicals Without Toxicity Values Or Not Evaluated	Concentration (µg/m3)
Ethanol	662
Isopropyl alcohol	32
Dichlorodifluoromethane (Freon12)	3
Trichlorofluoromethane (Freon 11)	2

EXHIBIT 281  
 CALCULATED ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S419-INA/Q1-S419-VMP

Chemical	Indoor Air Concentration (µg/m <sup>3</sup> )	Sub-Slab Concentration (µg/m <sup>3</sup> )	Ratio: Indoor Air/ Sub-Slab
1,4-Dichlorobenzene	ND	0.78	
2-Butanone (MEK)	ND	3.92	
2-Hexanone (MBK)	ND	0.78	
Acetone	40.16	22.84	1.76
Benzene	1.12	1.12	1.00
Carbon disulfide	ND	0.467	
Chloroform	ND	0.92	
Chloromethane	1.34	ND	
Ethanol	661.80	10.69	61.90
Isopropyl alcohol	31.66	1.15	27.45
m,p-Xylene	2.69	0.91	2.96
Methylene chloride	3.47	ND	
n-Heptane	ND	0.94	
<b>Tetrachloroethene</b>	<b>2.44</b>	<b>70.52</b>	<b>0.04</b>
Toluene	8.50	5.00	1.70

EXHIBIT 282  
 SUMMARY ATTENUATION FACTORS:  
 INDOOR AIR/SUB-SLAB VAPOR SAMPLES:  
 Q1-S419-INA/Q1-S419-VMP

No. Chemicals Detected In Indoor Air Sample	No. Chemicals Detected In VMP Sample	Matched Pairs	Unmatched Chemicals
9	13	7	8
Conclusion: No Evidence of Cross-Slab Transport			

**EXHIBIT 283  
COMPARING CONCENTRATION AND RISKS ALL VMP SAMPLES**

<b>Tetrachloroethene</b>			
<b>Sample No.</b>	<b>Week</b>	<b>Concentration (<math>\mu\text{m}/\text{m}^3</math>)</b>	<b>Cancer Risk</b>
<b>Q1-S419-VMP</b>	<b>7</b>	<b>70.5</b>	<b>1.7E-05</b>

**EXHIBIT 284  
SPATIAL ANALYSIS OF NEARBY HOMES**

<b>Chemical Posing Risk</b>	<b>Homes With Elevated VMP Concentrations Nearby?</b>
Tetrachloroethene	Yes

**EXHIBIT 285  
GROUNDWATER DATA FROM THE 3 NEAREST GROUNDWATER MONITORING WELLS**

<b>Summary Information and Data</b>	
<b>Chemical</b>	<b>Tetrachloroethene</b>
<b>Closest Monitoring Well</b>	MW-25A
<b>Distance</b>	36.15
<b>Concentration</b>	1 U
<b>Second Closest Monitoring Well</b>	MW-25B
<b>Distance</b>	40.82
<b>Concentration</b>	26
<b>Third Closest Monitoring Well</b>	MW-40
<b>Distance</b>	47.97
<b>Concentration</b>	1.4